

JUNE, 1960

40 Cents

# Desert

... magazine of the  
**OUTDOOR  
SOUTHWEST**



"THE GOLDRUSH" BY CLYDE FORSYTHE

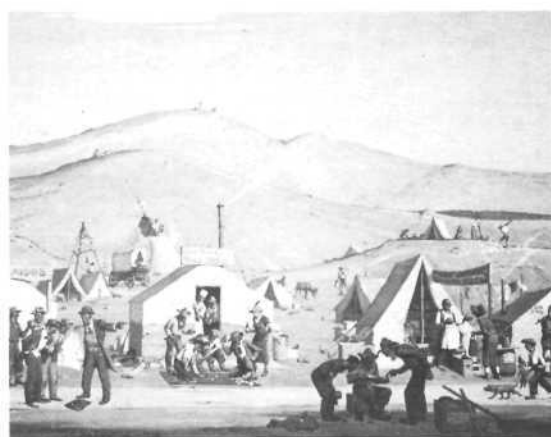
(see page 2)





The Gold Rush

This month's cover



The Mining Camp

July cover



The Mining Town

August cover



The Ghost Town

September cover

## ON THIS MONTH'S COVER:

# THE GOLD RUSH

THE FIRST IN A FAMOUS SERIES OF PAINTINGS  
BY THE DISTINGUISHED  
WESTERN ARTIST

## CLYDE FORSYTHE

A GRAPHIC RECORD OF THE SHORT-LIVED

## Wahmonie, Nevada GOLD STRIKE

The paintings, shown in black-and-white at the left, will be reproduced in full color on the forthcoming covers of *Desert Magazine*, as indicated in the captions.

Clyde Forsythe was born in Orange, California, in 1885. He attended military school where he "blew the bugle, flunked in algebra, learned Spanish . . ."

Forsythe went to New York in 1904 to study art at the Art Student's League. The following year he got a job drawing cartoons for the "New York Journal." "I was canned in 1909, which was dismal, having married in '06," he writes. "Went to work for the 'Evening World,' took to illustrating magazine stories on the side, and painted covers for 'Colliers,' 'American,' 'Redbook' and others. During World War I I painted posters."

In 1920, "fed up with snow and ice," Forsythe "came home to be a real painter of the desert."

Of Clyde Forsythe's work, "Widening Horizons" had this to say:

"In the pioneering era Mr. Forsythe saw and painted mainly the forbidding aspects of the desert, instilling into his portrayals the atmosphere of blight and desolation . . ."

"Many of his canvases today tell another story. Into these he manages to infuse that subtle something which bespeaks life and purposeful activity, charm and invitation. The wealth of sunshine and floral beauty is recognized and suggested; towering mountains and vast distances are shorn of their erstwhile tragic aspects and made to blend with the sand dunes . . ."

"Clyde Forsythe is one Western artist whose paintings of the desert partake alike of the spirit of the Old West and that of modern times . . ."

In the April, 1942, "Desert Magazine," Artist John Hilton had this to say about Forsythe's Gold Strike series:

"Clyde Forsythe . . . has done a series of paintings which he calls 'Gold Strike.' These will live in the annals of American art long after the richest gold mines have played out."

"They depict the development of a boom town, from the first hectic rush, through the tent city period, to the opulent era of false fronts and crowded dance halls. There is only one last scene yet to be completed—the old town in its deserted state. Then he will have added to the art treasures of the West a living story in paint such as has never been attempted."

**A**N ARTIST'S reasons for painting a picture are in most instances apparent—he selects his material in the studio or goes to nature; follows his own inclination, filled with ambition and hope. He is free and independent, and perhaps successful.

In painting "The Gold Rush," and the three pictures that follow, I am inclined to think that the material selected me. They were born of an adventure!

In the last week of February, 1926, my wife Cotta and I loaded our "covered wagon," a Franklin sedan, with our camping outfit and sketching materials and headed for the wilds of Nevada. The plan was the usual one—to find new desert landscapes to paint.

That first afternoon we stopped for gas at a wide place in the road—Las Vegas. As the tank was being filled, I saw a shabby little man sitting on a box near the station. "That," I said to Cotta, "looks like a desert rat and I'm going to ask him if he knows where I can find some burros."

And here it began. Said the little man, "If there's any burros around, they'll all be out to Wahmonie at the strike . . . you ain't heard of the strike? Big strike, two weeks old, got a camp, miners stakin' out claims. Me and my partners got two staked out; we're in for grub and headin' back t'night." He was George Davis, age 72.

That was all I needed to hear. All we had to do was to follow the Beatty road for 90 miles, look for a white rag on a stick in a bush, and follow a sandy wash for 20 miles. Wheel tracks would lead us to the camp in the hills. We made the 90 miles at sundown, camped by some roadside rocks, and had our supper—beans, eggs, bacon. The back of our front seat was on hinges and folded down to make a good bed in the car. We turned in for a much needed rest.

A few yards farther along was the "rag on a stick" and the wheel tracks. Next morning I put her into second gear and stepped on the gas. We were off for Wahmonie, but we didn't go far. The landscape was pure sand. In the middle of the wash stood a two-room house atop a steaming old truck. We came to a stop. The truck was in sand up to the hub caps—stuck.

Since a Franklin car could not tow anything without pulling its drive - shaft out, we could not help. The three men with the outfit were digging sand and piling in brush as I passed out useless advice. In this way I got to know the "boss." Seldom have I seen a tougher, rougher looking character—and so help me, his name was Forsythe!

The little house was headed for the camp to serve as a mess-house for the miners who were working the "big strike." I learned from my new friends that the

mine had been bought from the finders by George Wingfield, Nevada's top mining and cattle operator.

We managed to crawl around the big roadblock, and continued up the wash, passing a few sad-looking jalopies along the way. The going was all up a slope. Finally we saw tents and plumes of smoke from burning piles of creosote bush.

There, in a shallow two-mile-wide valley, lay the new camp. A few streets had been dragged out and a dozen tents lined the main drag. A grocery tent, a cafe tent, and other tents.

We parked in the greasewood a couple of hundred yards from the camp and walked back to look for our little man, George Davis. He was there with his partner, Jim Ryan—two desert rats with several weeks of stubble on their tanned faces.

Some of the men had come into camp on foot, from all directions. A few wagons and jalopies were scattered about. One man came into camp dragging a wheelbarrow. We watched the straggling hopefuls, as hours apart, they limped into camp and looked about for campsites.

Davis and Ryan had a shabby little pup-tent in the center of "town." They had a pot of mulligan stew on the fire.

Human pride is where you find it—like gold. Dried-up little George Davis was the oldest man in camp. He had been honored by the men who knew how to honor a man. They had named the highest peak in the range, "Mount Davis." We found that we were with a man of distinction! Ryan, the partner, was just a young punk of my own age, 41.

We supplied some of the camps with water. Under the car we had a ten-gallon tank of camping water, with a faucet behind the rear fender. There was a well two miles from camp and we went there to fill up, and found

several wild burros at the trough. They ran off and refused to be photographed.

Back to camp and the cafe. A 1x12 plank about 10 feet long served as a table. Ham and eggs and coffee at one dollar per person—but this was better than slavery over a campfire. Liquor too! A five gallon demijohn of gin, and one tumbler for all customers.

We sat with Davis and Ryan at their campfire as the cold of desert night drew about us, and learned about George's daughter, who was a fine school teacher far away in the East.

By the last faint light of evening we saw in the west a strange sight in the desert—a two-room house came snorting and groaning against the gray sky. They had made it!

And so to bed in our private car.—END

## The Artist Tells How He Came to Paint

# THE GOLD RUSH



WAHMONIE PARTNERS JIM RYAN, LEFT, AND GEORGE DAVIS

# Desert

--magazine of the Outdoor Southwest--

CHARLES E. SHELTON  
publisher

EUGENE L. CONROTTO  
editor

EVONNE RIDDELL  
circulation manager

## Contents for June, 1960

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"The Gold Rush," first scene in a quartet of paintings by Clyde Forsythe depicting the various phases—from birth to death—of a Western mining town (see pages 2-3). "Mining Camp," "Mining Town," and "Ghost Town" will appear, respectively, on Desert's July, August and September covers.

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## LETTERS FROM OUR READERS

### Jimson Ointment . . .

To the Editor: Don't kill the datura! (*Desert*, April '60: "Datura . . . A Deadly Killer Weed Shows Off Its Rare Beauty in the Desert Home Garden.") At least not in camping areas. We do a lot of camping at the Remuda Havasupai Camp, and have long considered the Moonflower to be a real godsend. It is a wonderful local anesthetic. Take a leaf, crush it between the fingers and spread the juice over cuts, abrasions, insect bites, rashes or any other skin irritation and I guarantee almost immediate relief. Apparently it does not work the same for all people, but for those who find it effective it can be a real blessing. It will stop the itch of a mosquito bite right now. In Supai I always keep a supply of Jimson Weed right next to my bedroll.

Once we ran a test on a poor fellow who had scraped both legs on the sharp travertine. We took some Jimson Weed juice and applied it to his right leg. The best available commercially prepared ointment went on his left leg. All burning and pain stopped immediately on the right leg, but the left was bothersome for two days. The right leg was completely healed in four days—the left still had scabs after a week.

DANA W. BURDEN  
Remuda Ranch  
Wickenburg, Arizona

### Putting Deserts to Use . . .

To the Editor: I was given a copy of your Christmas issue by an American friend and I have found it fascinating reading. Some of the desert scenes have set me wondering if this vast land could not be put to use, especially after having read *The Bible As History* (Chapter 45) where it describes the discovery of thousands of round loose stone walls built in a desert place, and where vine and olive trees had been planted inside these enclosures, the mechanics being that the stones gathered dew which kept the roots watered.

I am director of the Banford Linen Bleach Works. One of the interesting things about the flax plant, from which linen is made, is that it was developed by the ancient Egyptians. Linen was always considered the queen of fabrics in ancient times, and there are many references to it in the Bible. In these days of so many synthetic fabrics, linen is still considered the most suitable for use in hot countries.

THOMAS T. SINTON  
Gifford, N. Ireland

### New Locale for Tram . . .

To the Editor: In your April issue a letter from Clayton L. Kanagy, of Los Angeles, bemoaned the passing of the Cerro Gordo Mines tramway from the Keeler scene. I should like to assure Mr. Kanagy that the tram has neither vanished nor disappeared. In fact it has not even left the desert country. It is simply changing the locale of its operations.

The Cerro Gordo tram was purchased recently by the Argentum Mines Co., which has just placed in operation Nevada's largest precious metals mining and milling project on the north side of Columbus Flat in Esmeralda County. The new mill has a capacity of 5000 tons per day, but its present fleet of trucks can supply only



about 1400 tons per day. Plans call for placing the Cerro Gordo tram into operation as soon as possible to transport additional supplies of silver ore from the Alpha T Mine or from the Candelaria dumps. The sturdy terminal building, which Mr. Kanagy says has vanished, is also at the edge of Columbus Flat very much in evidence and looking forward to a new and interesting career, still very much in the desert.

ROBERT H. TREGO  
Unionville, Nevada

### Stock's Dirty Sock . . .

To the Editor: Regarding the naming of the Dirty Sock "spa" on the Mojave Desert (April Desert Magazine).

Forty years ago my husband, Roy Stock, and his partner, V. F. Blackmarr, were exploring that part of California when they came across the "spring." My husband proceeded to wash some of the desert dust off his body (swimming, they call it nowadays). Blackmarr caught a whiff of the sulphur water and said: "That's (meaning the water) dirty, Stock (meaning my husband)"—and the pool was christened.

Since revisiting the place we noticed that the original sign, "Dirty Stock," had been changed to "Dirty Sock."

MRS. ROY F. STOCK, SR.  
Winslow, Ariz.

### Disappointing Field Trip . . .

To the Editor: We have just returned from a field trip to the Socorro Mine near Salome, Arizona. This area was written-up by Jay Ellis Ransom in the April Desert Magazine, and according to his article there was supposed to be chrysocolla in the hills and washes around the mine. I have news for you — there is no chrysocolla anywhere around that district.

We were terribly disappointed. All we could find was copper-stained rock. There were five other car-loads of people at the Socorro, and they were disappointed, too. This is the third time I have followed field trips written-up in Desert Magazine and each trip was a total failure.

Either you print a retraction to this story or cancel my subscription.

M. E. BENITO  
Twentynine Palms, Calif.

(Our apologies to those readers who might not have found their share of chrysocolla in the rough country back of the mine. I believe, however, that the author made it plain that he had explored the Harquahala Mountains' chrysocolla potential and, in his opinion, found it promising. Rock collecting today is a far different proposition than it was only a decade ago. The letter from Mr. Ransom following this one is not offered as

an "alibi" for the Socorro area, which may or may not be a chrysocolla dud; but rather to point up some of the changes that have taken place in the gem-mineral hobby. I believe it will contribute toward more realistic and enjoyable rock collecting.—Ed.)

### Rock Collecting Today . . .

To the Editor: For the past 16 years I have been following Desert Magazine rock-collecting articles, and contributing stories of my own on occasion. I particularly recall the fun I had in following the field

trip pieces of John Hilton in the early days of DM. From this experience in roaming the desert areas I learned a considerable amount about the trials and tribulations which afflict late-comers to a field write-up area.

I believe that readers of DM who are also rock collectors are pretty much aware of the fact that gemstones are so termed because of their relative rarity. However, there appear to be newcomers to the rock-hound fraternity who are not aware of this fact and who, on arriving at a new field first described in DM, expect to find gemmy materials scattered over the terrain like

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dew drops before sunrise. Those days are no more, believe me. Like locusts before the wind, the tens of thousands of eager-eyed rock collectors who have covered the West and Southwest during the past quarter-century have pretty nearly cleaned off the surface accumulation of gem materials. Long before a field gets written-up in any of the rockhound magazines, local hunters have garnered the best of all available materials.

Fortunately for readers of *DM*, local enthusiasts are not, on the whole, greedy. By that, I mean that the majority of local rock-minded residents of any given area I can think of take only representative samples. They tend to leave a good supply of naturally-occurring gemstones for others and, by and large, are eager to share their knowledge with newcomers to the area.

But the minute a new field is written-up in *DM*, whole swarms of rockhounds from the metropolitan areas speed to the scene

and, literally speaking, in a matter of a few days at most, hours in some places, every scrap and smidgen of gemstone is swept away. The very first arrivals, naturally, get the best. Having watched this scene over and over again, I have come to the conclusion that the amateur rockhound not only has little sense of discrimination, but no regard for those still to come.

Today, the best gemstone fields lie in the backyards and basements of city dwellers where the great bulk of the stones are left untended, unused, and which eventually wind-up in the trash can for ultimate disposition by truck and barge to the depths of the sea.

How well I recall Quartz Hill, Arizona, first written up by John Hilton in April, 1942, and then by myself in September, 1953. When I first visited this area, quartz crystals were to be found all over the surface of the ground, glinting like diamonds against the rays of sunrise or sunset. After my article came out, the field was wiped out (except for buried crystals) in one afternoon, according to residents of Quartzsite. It seems that the geology students from the University of Arizona and from the University of Utah arrived simultaneously, nearly 300 strong. Spreading out like a phalanx, hammers in hand, they swept the field so completely clean that a few days later when I revisited the field there was not a single chip or broken crystal to be seen.

Now this brings up one more important point which rock collectors already know well. A new field is nearly always discovered from the lines of float that can be tracked back to the area of origin. When a newly written-up field has been gutted, there will nearly always be adjoining areas

that have not been described within a radius of hiking distance—at most a few miles. Amateur rockhounds who flock out expecting to garner a fortune in nuggets at once can always expect to be disappointed.

The collector who really loves to get out and to feel the sun and wind in his face, smell the fascinating odors of the desert, and tramp over the hills not really caring whether he finds anything, welcomes the chance to explore beyond the boundaries of a gemstone field as written-up in *DM*. I have visited many a rockhound field that was empty of gemmy material, only to discover arroyos and bajadas from a quarter to three miles distant in almost any direction completely untouched.

All that a magazine can do, in presenting a field trip story, is to draw attention to a particular area where gemmy materials are known to exist. First-comers will take them all, and later-comers will be disappointed. While deploring the greediness of the first-comers, I believe the later-arrivals have by far the greater opportunity if they would but open up their eyes, get out and hike this way and that, remaining several days camping if need be. Anything worth while comes to us only through effort and imagination. One can no longer spend an hour or two in a field and expect to come up with much of material value.

JAY ELLIS RANSOM  
Glendora, Calif.

### Big Mill Timbers . . .

*To the Editor:* In the article "Chrysocolla at the Socorro" by Jay Ellis Ransom, the writer describes "the sawed off bases of four of the biggest sticks of lumber I have seen south of the Pacific Northwest" among the remnants of the mill of the Socorro Mine, which flourished about 50 years ago.

Undoubtedly these 2'x2' timbers supported the mortar boxes of two stamp mills or batteries of five-stamps each. These timbers were sometimes 10 or 12 feet long, and took up the shock on their end grain of the rapidly falling stamps, weighing 600 to 800 pounds each.

I should imagine that it is quite a rarity to find these heavy timbers on abandoned mill sites. When machinery is moved to another mine, the timbers usually go, too. In the case of the Socorro, where the boxes were sold for scrap, the timbers were of no value and thus were abandoned. Mr. Ransom is to be commended for his observance of the mill details, and I hope the above explanation will clear up the "mystery."

F. W. SEWELL  
San Mateo, Calif.

### The Dates Are Traveling . . .

*To the Editor:* I have taken your magazine for many years and I am enjoying all of your improvements. But, I do miss the old calendar of desert events.

JEANNETTE ALTENBURG  
Torrance, Calif.

(Dates of desert - country community events are listed in our various state travel columns—the 'Pathway To' series.—Ed.)

### Wanted: Photos by Amateurs . . .

*To the Editor:* Your Photo of the Month contest, which was recently discontinued, gave us more pleasure than almost anything else in the magazine. We are tired of pictures taken by professionals. Please give us more amateur photos.

MRS. BILLIE WHITE  
Klamath Falls, Oregon

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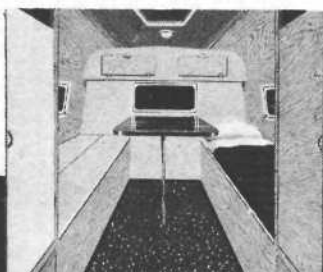
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# SOUTHWEST NEWS BRIEFS

¶ Recently dedicated in the Antelope Valley at a site 20 miles east of Lancaster, Calif., was the Butte Valley Wildflower Sanctuary. The preserve contains 320 acres. To be administered by the Los Angeles County Parks and Recreation Department, this tract is one of the first areas in the state to be set aside for the preservation of natural desert growth.

¶ Nevada's Pony Express Centennial Association announced plans to mark the 400 - mile route of the horseback mail service through the state with permanent monuments (eight-foot long steel posts) placed every quarter-mile along the old trail. Every fourth pole will bear a metal sign in the shape of the State of Nevada reading: "Pony Express Trail." The Centennial Association hopes to have the job completed well in advance of the July 19 date set for the ceremonial re-running of the Pony Express along the original route from St. Joseph, Mo., to Sacramento, Calif.

¶ A commercially-valuable use for hitherto "worthless" geodes is being investigated by a glassware designer, Richard Hollabaugh of Sand Springs, Oklahoma. Hollabaugh staked a mining claim on the famous Rabbit Springs, Idaho, geode area near the Nevada state line about 40 miles south of Twin Falls. He said the opalite in the geodes is valuable as an ingredient of "a beautiful new glass." But rockhounds were not disturbed. An official of a local gem club said that only one in every thousand geodes from Rabbit Springs was worth a discriminating hobbyist's time. It was a good field, he said, for the neophytes.

¶ The Utah Park and Recreation Commission said development will begin "at once" on a large camping area and three viewing sites at Dead Horse Point. The camping area will include public restrooms, parking, grills and picnic tables. The state plans to build a mile-and-a-half of road at the tip of the park. The 22-mile road to Dead Horse Point from the highway north of Moab will be graded and surfaced.

¶ The eagerly - awaited "Beryllium Boom" in eastern Nevada fizzled when Beryllium Resources, Inc., made known that it will not exercise its option to acquire a deposit of the space-age metal located southwest of Ely. The company indicated that the ore body was of insufficient amount and grade to warrant further expenditure. This was good news for Nevada conservationists, for the mining company's decision to back out may clear the way for establishment of the Great Basin National Park in whose proposed boundaries the deposit was located. Mining interests, opposing establishment of the park, used the anticipated development of the beryllium deposit as one of their major arguments for withholding park development.

¶ The House defeated a bill authorizing the government to purchase the Hubbell Trading Post near Ganado, Ariz. Rep. Stewart L. Udall of Arizona, author of the bill, said the post, established in 1874, contains a "priceless collection of Western art and historical artifacts," and depicts a colorful era of American history. Udall's bill would have authorized up to \$300,000 for purchase of the post and about \$300,000 for a program of development as a national historic site.

¶ Of the 31,259 Indians who have moved away from their reservations to Western and Mid-western cities since 1952 with help provided under the relocation services program of the Bureau of Indian

Affairs, about 70 percent have become self-supporting in their new homes. Commissioner Glenn L. Emmons said this figure "stands as a highly remarkable record when we consider the numerous difficulties which many Indians from reservations face in adjusting to the complexities of life in our larger cities." Commissioner Emmons also reported "gratifying progress" in the Bureau's more recently initiated program to provide adult Indians with vocational training. From February, 1958, to the end of December, 1959, over 2000 Indians have been enrolled at Government expense in vocational schools. Of these, 611 have completed their training, 629 have discontinued, and 777 are still in training.

¶ The Argentum Mining Company's new mill, located on Columbus Salt Marsh north of Tonopah, Nev., is now operating on a 24-hour basis. The plant is extracting silver from ore deposits and stockpiles in the famed Candelaria Mining District. Mill capacity is expected to reach 5000 tons daily by the end of summer, the "Tonopah Times-Bonanza" reports.

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# A Visit to Historic, Out-Of-The-Way LEE'S FERRY on the COLORADO



THE USGS MEASURING STATION AT LEE'S FERRY

• By FRANK JENSEN



DEAN TIDBALL IN THE MEASURING STATION'S CABLE CAR

LEE'S FERRY is the only place in more than 300 running miles of the Colorado River's canyon-hemmed course that the river is accessible to the average traveler. Off the beaten track, Lee's is replete with scenery, human interest and historical lore. As a matter of fact, it's the sort of place that invites discovery, that lures the lover of remote places.

Recently I turned onto the well-marked gravel road that leaves U.S. Highway 89 near the Navajo Bridge to follow a winding course through a valley surrounded on all sides by flat-top mesas common to the desert country of northern Arizona. To the west the Vermilion Cliffs dominate the landscape, towering more than 4000 feet above the floor of Houserock Valley. Balanced rocks, some of them larger than houses, line the road to Lee's Ferry.

Five miles from the highway the

DESERT MAGAZINE



narrow road drops down to the edge of the river near the place where wagoners rang the bell to summon the ferry boatmen. A mile or so beyond, the road forks—left leads to the Lee's Ferry Ranch; right crosses the Paria River to the United States Geological Survey river-flow measuring station. A word of warning: to reach the measuring station the Paria must be forded. Most of the year this means driving across a solid ford through less than a foot of water. During July and August, however, thunderstorms can convert this trickle into a torrent in less time than it takes to tell about it. And it is always wise during the summer storm season to stop at the Marble Canyon Lodge at the junction of the Lee's Ferry Road and U.S. 89 to get the latest road information.

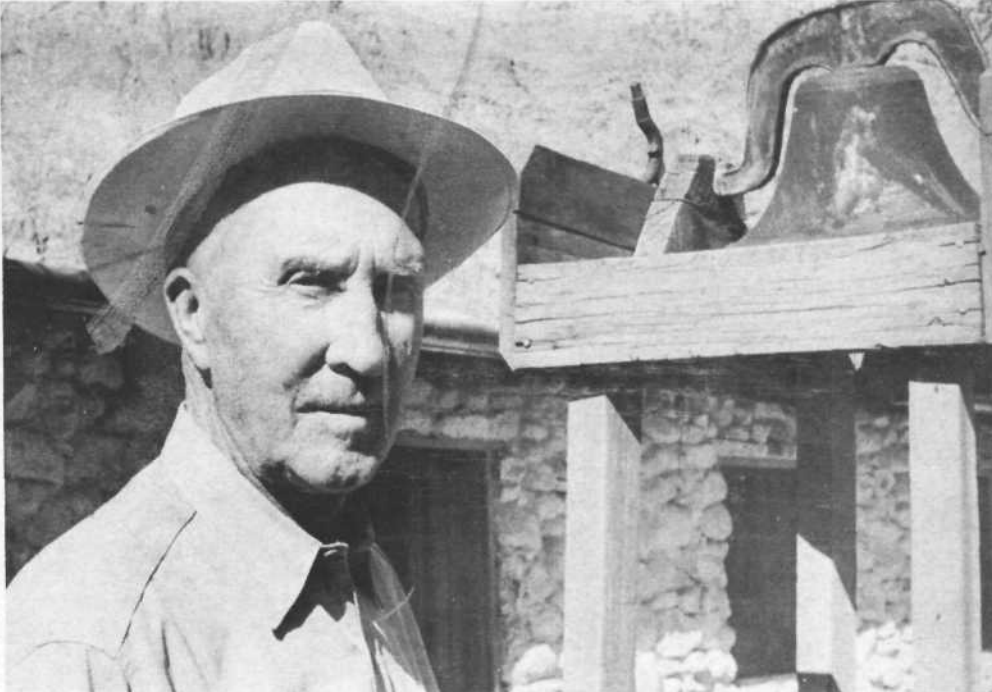
Dean Tidball, the USGS employee in charge of the Lee's Ferry measuring station, is a small man whose face has been weathered by the sun and wind of the Arizona desert. He was preparing to "take the river's pulse" when I pulled up to the station, and invited me to go along.

We crowded into the cable car, and a gasoline engine sputtered to life. As Tidball carefully worked the controls, the tram began to inch out across the river along the cable slung from canyon wall to canyon wall.

"The last passenger I had was a senator from Colorado," Tidball yelled above the din of the engine.

The cable car was not designed for passenger service. Instead, it is an ingeniously devised conveyance that makes it possible to measure the river's depth and width, sediment load, and rate of discharge in cubic feet per second (the hydrologist's yardstick).

Tidball made his first stop at a white stripe painted on the cable. He placed a milk bottle in a heavy brass container shaped like a Colorado River channel fish, and sealed the gadget. "This is what is known as a sampler," he said. "It measures the amount of sediment carried by the river." He pulled on a knob and sent the sampler, dangling by a thin silver-colored cable, into the river. While we waited for the test to run its course, Tidball explained how the amount of water flowing past this station was measured. "I



C. A. GRIFFIN STANDS BY BELL ONCE USED BY WAGONERS TO SUMMON FERRYBOAT AT LEE'S

use a set of head-phones attached to a meter," he said. "By timing the number of clicks I can calculate the velocity and volume of water." Minutes later the fish-shaped sampler was pulled out of the water, and the car crawled to its next measuring position near the center of the stream.

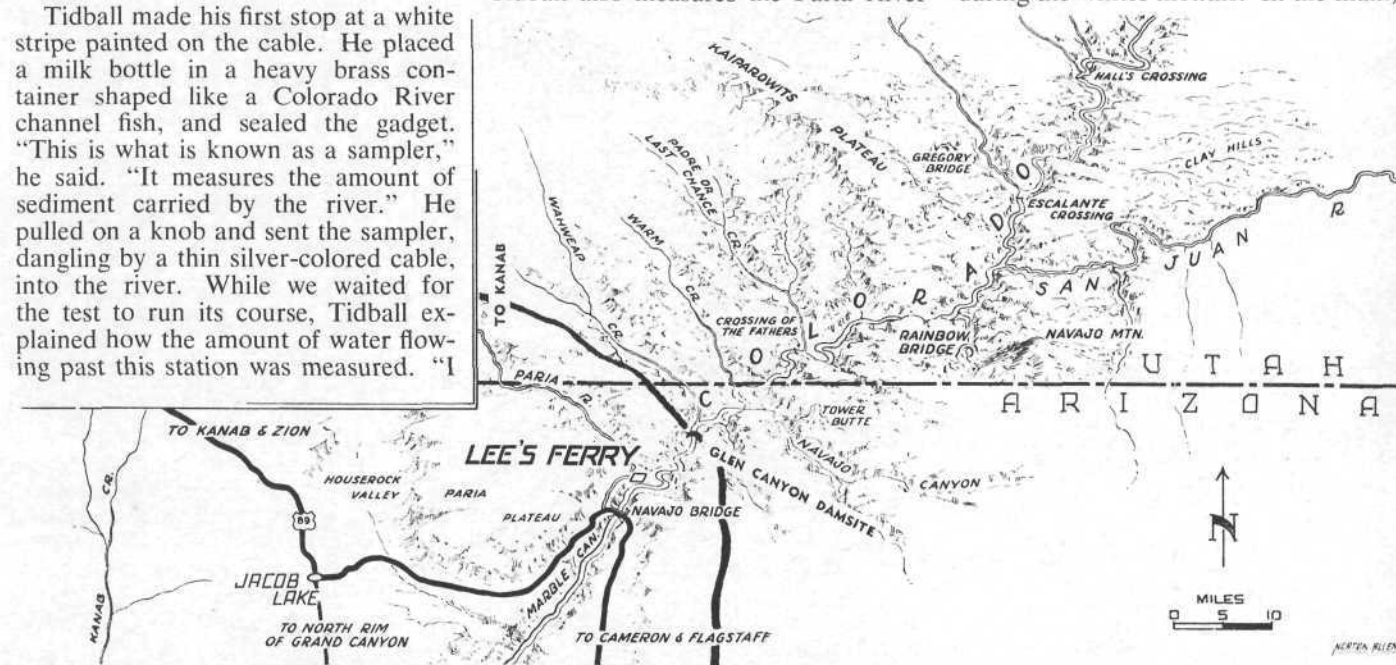
This cable car at Lee's Ferry was the first working model to be put into operation at the isolated measuring stations maintained by the USGS along 1700 miles of river from Yuma, Arizona, to Green River, Wyoming. "It's not fast but it beats everything else we've used," said Tidball. He pointed to an open platform suspended from a wooden A-frame. "That 'car' operated by gravity. It was plenty fast sliding to mid-stream, but from there up to the other side you had to crank by hand."

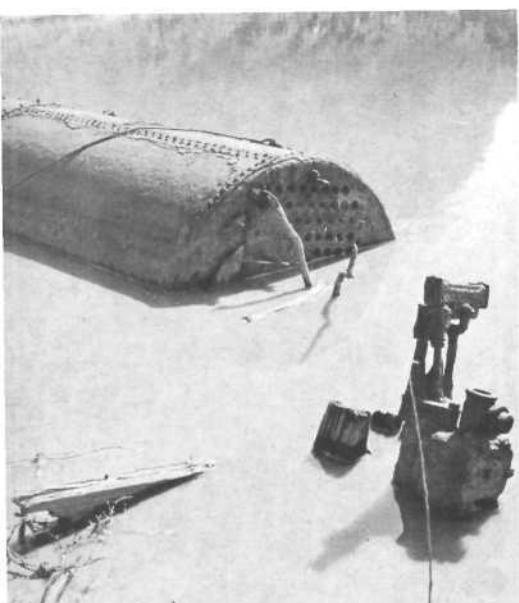
Measurements are taken every day. Tidball also measures the Paria River

and does the lab work on the Little Colorado and Moenkopi Wash samples.

Until 1950 Tidball was a creamery owner in Whitehead, Montana. He and his wife, Edna, now a teacher at a Navajo school in Tuba City, discovered the wonders of Northern Arizona while on a vacation trip. They sold out, pulled up stakes and came to Marble Canyon where they spent their first year selling curios to tourists. A year later Tidball went to work for the USGS. His first assignment was at the bottom of the Grand Canyon below the Phantom Ranch. In 1954 he was transferred to Lee's Ferry.

Tidball is well suited to the lonely life of the measuring station where he sees an average of one person a week during the winter months. In the main,





BOILER OF THE STEAMSHIP CHARLES H. SPENCER. IN ITS DAY THE SPENCER WAS THE LARGEST CRAFT EVER LAUNCHED ON THE RIVER.

however, he is absorbed in his work, gauging the Colorado River 365 days out of the year.

Of all the USGS stations, Tidball's is probably the most strategically located. Lee's Ferry is at the so-called Compact Point—the dividing line between Upper and Lower basins on the Colorado River. Hydrological records made at this station date back to 1896. They show a picture of drastic fluctuation, from floods which periodically rage through the canyons to periods of drouth when the flow is almost nil. In 1917 a record 22,000,000 acre-feet passed the division point; in 1934, but 4,400,000 acre-feet.

Measurements made at Lee's Ferry played an important part in the formulation of the 1922 Compact, allocating the use of Colorado River water in seven Western states—8,500,000 acre-feet each year went to the Lower Basin States of California, Nevada and Arizona. Another 7,500,000 acre-feet was assigned to Colorado, Wyoming, New Mexico and Utah.

The rampaging Colorado was harnessed in the Lower Basin during the 1930s with the building of Hoover, Parker and Davis dams. In 1955, nearly 20 years after the water of the Colorado flooded the penstocks of Hoover Dam, Congress approved the Upper Colorado River Storage act providing for construction of three major dams in the Upper Basin—Glen Canyon on the Colorado, Flaming Gorge on the Green River, and Navajo on the San Juan.

The \$431,000,000 Glen Canyon Dam, 16 miles above Lee's Ferry, will be the first of the main-stream dams to impound water. Completion of this dam is scheduled for 1964. It will back water 186 miles up the Colorado and 71 miles up the San Juan—26,000,000 acre-feet of water, only 5,-

000,000 acre-feet less than Lake Mead's capacity.

Lee's Ferry will play a key role in the filling of the huge Glen reservoir since it will be here that the amount of water flowing from Upper to Lower basins will be measured to insure the Lower Basin its rightful share.

**T**HE STORY of measuring water in America's last untapped water-hole is only half the story of Lee's Ferry. In 1776, two Spanish priests, Escalante and Dominguez, attempted in vain to ford the river here. They found a crossing at a prehistoric Indian ford upriver, naming it in honor of the Most Holy Conception of the Virgin Mary, although the place has come to be known as the Crossing of the Fathers.

Nearly a century later Jacob Hamblin, Mormon scout and missionary to the Indians, succeeded in crossing the Colorado below Lee's Ferry and later at Lee's Ferry itself. The Mormon outcast, John D. Lee, was the first white man to settle this lonely crossroads on the Colorado. He was a key participant in the infamous Mountain Meadows Massacre and was later executed for his part in the murder and pillage of an Arkansas Emigrant train.

Lee was one of the most controversial and tragic figures ever to walk the Western deserts. An exile and fugitive from the law, he and his three wives settled at this desolate pin-point on the frontier in the early 1870s. They called it "Lonely Dell."

The first ferry was launched here January 11, 1873, to carry Mormon emigrant trains bound for the valley of the Little Colorado River in northern Arizona. In his diary, Lee described the boat as "a staunch craft, well constructed, and a light runner." It was 16-feet wide, 145-feet long, with two decks capable of carrying two wagons. Lee's first fare included nine wagons and 33 animals for which he received \$3 a wagon and 75c per animal, with no charge for people or luggage. These prices were in effect until 1885.

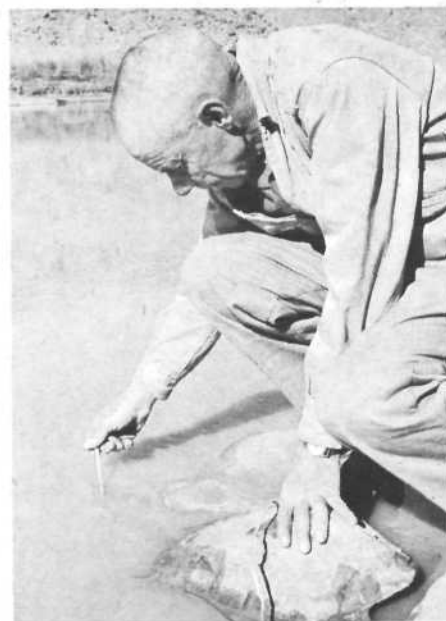
The ferry was operated after Lee's subsequent arrest and execution in 1887, first by one of his widows and later by the Mormon Church. In 1909 it was sold for 100 cattle, and in 1916 the ferry was taken over by Coconino County and operated until the completion of the Navajo Bridge in 1928.

All that is left of the operation today are the decayed ruins of a few rock huts and a scar in the side of the cliff where the first wagon road

was blasted with gunpowder. There is also part of a fort built in 1873 for protection against marauding Indians, and a cabin erected by Lee on the west-bank of the Paria River. Part of the timbers that went into the construction of the cabin were said to have been taken from one of the boats of Major John Wesley Powell, the one-armed explorer of the Colorado. At one time the home had the luxury of an inside bath, hollowed out of the floor in a corner of the room and lined with mortar.

The steamship *Charles H. Spencer* is another relic of a bygone day. The rotting skeleton of its timbers and a rusted boiler are all that remain of what was once the largest craft ever launched on the Colorado. The hulk of the steamship lies floundering at the foot of one of the cable towers, buried in mud and submerged at high water.

The steamer was owned by the American Placer Company, an Eastern firm organized to mine for gold on the Colorado and San Juan rivers. Hauled overland and assembled at Warm Creek, 28 miles upstream from Lee's Ferry, the *Charles H. Spencer* made

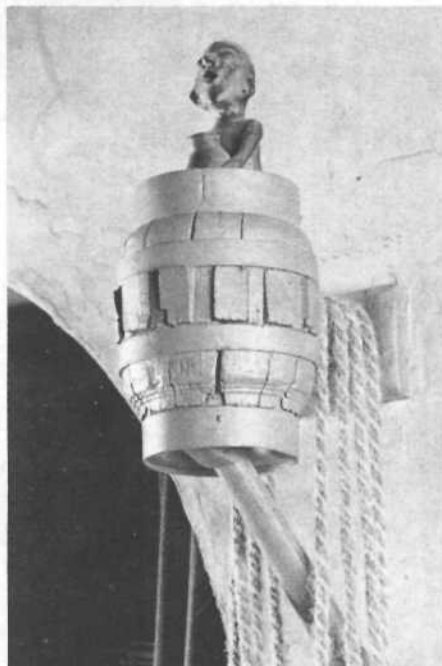


TIDBALL TAKES TEMPERATURE OF THE COLORADO RIVER—PART OF ROUTINE DAILY MEASUREMENTS MADE AT THE LEE'S FERRY STATION

its maiden voyage in 1911. The boat was named after a mining engineer, employed by the American Placer Company, who had set-up dredging operations on extensive sand and gravel beds near Lee's Ferry at the mouth of the Paria River. Spencer needed coal to power steam-driven pumps which were used to remove sand from the river. Plans called for this coal to be brought in by water from mines on Warm Creek.

The wooden coal-hauling steamer





◀ A WAGON HUB HOLDS AN IDOL—PART OF THE DECOR AT THE LEE'S FERRY RANCH

at seeing this place was surprise at its great length—105 feet. It looks as if it might have been designed for an army barracks. There are nine rooms, including three bedrooms, a living room, dining room, library and kitchen.

A heavy rough-hewn door leads to the living area. Sawed beams span the ceiling, and an immense rock fireplace, flanked by two cast-iron kettles, dominates the entire room. There is also a liberal use of Navajo rugs on the floors and covering the chairs and sofas. The dining room table was built in place. Its planks are more than three inches thick and 15 feet in length.

The dining and living rooms are separated by an arch which adds to the Spanish hacienda atmosphere of this charming place. The house reflects the warmth and hospitality of the Southwest, along with the unconventional make-do approach of the Western pioneer. Apache basketry adorns the walls alongside excellent oil paintings. A pair of oars are crossed in one corner while a green wagon hub, supported from the wall

by wooden dowels, holds an Indian idol. A still larger hub, this one covered with a sheepskin, is used as a footstool.

The home was purchased in 1940 by C. A. Griffin who was working as an agricultural agent with the Indian Service at the time. Griffin and his wife, Ramona, retired to the Lee's Ferry Ranch four years ago, where by modern standards they live almost primitively. There is no electricity, no dishwasher, no automatic washer, no telephone. The nearest store is at Marble Canyon seven miles from the ranch. The nearest city of any size is Flagstaff, 125 miles to the south.

The Griffins get by with bottled gas which they use for cooking and to heat the home in winter. "If and when we get electricity the first thing we'll install is a desert cooler," says Griffin. It's needed on the Colorado where summertime temperatures soar to 105 degrees. The house's double roof and thick rock walls provide some comfort.

On the whole the Griffins are satisfied with their ranch home. "We're just taking life easy, enjoying this beautiful spot," says Mrs. Griffin.—END

was 92-feet-long, had a beam of 25-feet, and was powered by a boiler 10-feet-long. The sight of this flame-belching paddlewheel monster must have startled more than Navajos crouched on the rim of Glen Canyon high above the river.

The idea was a good one, but Spencer's calculations did not include the recalcitrant nature of the river. The steamer made five trips in all, and the story is still told around Lee's Ferry that most of the coal freighted downstream was needed by the ship to push its way upriver against the stubborn currents. The law of diminishing returns was against Spencer. In the brief period the ship was used, it hauled 30-tons of coal at a cost of \$30,000. Probably the most expensive coal in history. The steamship was abandoned, and coal was freighted to Lee's Ferry by pack train.

The flourlike nature of the gold eluded Spencer as it had more than 1000 other miners and prospectors attracted by the promise of an El Dorado on the Colorado. In 1912 the American Placer Company abandoned its Paria River venture to end the last extensive gold mining operation on the Colorado.

**T**HE BASIC requirement of a ranch house is that it be low, rambling and rustic. The old homestead at the Lee's Ferry Ranch has all these requisites plus an interior decor that gives it a distinctiveness all its own.

The home has a whitewashed rock exterior, and a simple gabled roof covered with tar paper. My first reaction

ARCHED WINDOW FRAMES THE DINING ROOM OF THE LEE'S RANCH. TABLE IS 15' LONG. ▶



# DAYS SPENT IN BLUE CANYON

*By Laura Adams Armer*

This is the fourth in a series of previously unpublished articles by one of America's most distinguished authorities on the culture of the Navajos, based on her 1923-31 experiences in Arizona.

**L**ORENZO HUBBELL, the trader at Oraibi, often spoke of Blue Canyon as the most beautiful spot in the neighborhood of the Hopi mesas. We visited it one Sunday, driving 30 miles northward from Oraibi, over a very rough road. Past rocky mesas, down to sandy washes we traveled, watching thunderclouds mass above the distant hills. Lightning streaked the purple clouds. Rain fell in torrents, freshening the wild sunflowers blooming in the sand. By the time we reached Blue Canyon, the sun shone on spectacular cliffs rising above the wash where two Navajo families lived with their flocks of sheep. An old hogan of earth-covered logs stood in the sand near a lone cottonwood tree. Convinced that a painter's paradise spread all about, I exclaimed:

"This is where I wish to live! Would it be at all possible?"

"It would be difficult, nothing soft about it, no physical comfort," said Mr. Hubbell. "Are you again asking for the moon?"

"It seems to be the moon itself," I answered, "so desolate is it, so worn and neglected. I feel like giving it life."

Not until the following spring—in 1925—was my camp made at the base of the fantastic cliffs of Blue Canyon. Mr. Hubbell and Herbert, a good Hopi friend, drove me and a truckload of baggage to the remote spot. They set up two tiny tents to hold my canvases, paints and clothes. Nearby a cot awaited me when night should fall. My benefactors were about to leave for the trading post. Having said goodbye, Mr. Hubbell added a final word as he sat at the wheel of his car.

"If this moon place is not wild enough for you, send word to Oraibi

and I will try to find what you want. Be sure to remember the word for water: *'Toh, toh, toh, toh.'* Do not forget it. Also it would be wise to introduce yourself to any strange Navajo as my friend. Say to him: *'Na Kai Tso, bi kis.'*" (*"Na Kai Tso"*—Hubbell's Indian name—"his friend").

I watched the car turn around, then I moved toward the household goods lying in the sand. With a sense of exhilaration I proceeded to sort them. I arranged things so that Jenny, the Navajo girl who was to cook and interpret, could find the canned goods, the coffee, the eggs and bacon. This last, a precious investment that must be protected from weather and dogs, I placed beneath a turned-down wash-tub. Two heavy rocks on top of the tub seemed sufficient weight to hold it.

My chores finished, I sat on the cot to survey my domain, to assure myself that I was not dreaming. Lambs called plaintively from the rock corral. Above them loomed vermilion cliffs zoned with white. Below these barren cliffs bereft of verdure, left stark and naked by the ebbing of some long forgotten sea, my campfire burned upon the sands. Up the wash a band of horses walked slowly toward the waterhole.

That first night under the stars I lay on my cot watching the blue-black sky bloom with incandescence of myriad worlds. At dawn I awakened marveling at the bird notes which issued from the lone cottonwood tree. A mockingbird announced the joy of the morning in tones so sure and buoyant that I arose full of eagerness to begin my life in an environment which quickened my imagination. Jenny, busy at the campfire, had already made the coffee. Its aroma, added to that of sizzling bacon, hastened my dressing. By seven o'clock I sat sketching at my easel. I worked

until the shadows on the cliffs slunk away before the mounting sun. In the stillness of the canyon where only a sheepbell tinkled, or yellow beetles buzzed in the cottonwood tree, the austerity of the land challenged me to produce.

The outdoor camp was sufficient so long as the sand stayed in the wash, but when the wind lifted it to whirl in spirals, or to advance in sheets of suffocating dust, I was forced to take shelter in the hogan of my Navajo host. My hair and ears would be full of fine sand, and every wet canvas coated with a film of dust from the desert floor.

Inside the hogan the women spun and wove their wool. There were two sisters in that home. I named one of them the Pretty Lady. Her velveteen blouse enfolding the straight lines of her back and the curves of her breasts was fastened at the neck with silver coin buttons. Silver encircled her wrists. Turquoise and white shell beads hung on her bosom. A full skirt of figured calico flapped about her moccasined feet as she walked in the sunshine tending to the duties of the camp. Perhaps the kettle of dye needed stirring, or the fire must have another stick. The small son of the Pretty Lady took care of her sheep, wandering with them as they grazed, and returning in the afternoon to put them in the natural rock corral barred with poles of pinyon. It was he who brought water to my camp. He would come riding a burro loaded with a keg of muddy water. He hung the keg on a juniper tree, and by morning the mud would be settled. He was the least spoiled child imaginable, sweet-tempered, not too shy, perfectly at home in the expanse of sagebrush, sand and rock, eager to accept a cookie or a soda-cracker offered in my outdoor camp. I wished to know his



name, the name his mother gave him, not to be spoken outside the family circle, and then not in the presence of the child.

One day, while the Pretty Lady, Jenny and I were alone, the name was told to me. It was *Hayolkal Ashki*—Dawn Boy. The Pretty Lady was a poet. She had not named her child Round Boy, nor Fat Boy, nor Red Boy. He was Dawn Boy, named for the singer of the four songs that give access to the Red Rock House. He was named for Dawn Boy who crossed the Canyon de Chelly on a rainbow, singing as he entered the house of dawn and of evening light:

*With the pollen of dawn upon my  
trail, there I wander.*

*With beauty before me, I wander.*

*With beauty behind me, I wander.*

*On the trail of the morning, I  
wander.*

One morning Jenny told me that her aunt was sick. I went to the hogan and found the Pretty Lady brewing herbs on the fire. She had been out before sunrise to gather them while they were still covered with dew. The sister's face was swollen and red. I think she was suffering from erysip-

elas. For days the sick woman lay in the hogan, growing worse and more feverish. A medicine man was procured to sing those songs that propitiate an offended spirit. The Pretty Lady prepared for his coming. Armed with an axe she climbed the cottonwood tree and cut branches of green leaves. She packed them to a summer shelter and piled them conically, making a verdant room. On the floor she placed sheepskins, wood for a fire, pans for cooking. Later she killed and flayed a sheep to roast and boil in the green bough lodge. There, the invalid rested on sheepskins, awaiting the coming of the medicine man.

The Pretty Lady spared no strength to help her sister. By late afternoon everything was ready. The Sun God was nearing earth's end, lighting the red tops of the rocks behind the blue smoke from the lodge. The sheep huddled quietly in the stone corral. Up the wash came the husband with a medicine man. Soon a sound of chanting issued from the green cottonwood lodge. When the singing ceased the Pretty Lady walked out, followed by her sister who was stripped to the waist. Behind them came the medicine man carrying a basket and a bull-

roarer. He touched with cornmeal the brown back and the head of his patient. Then it seemed as if "the whole creation groaned and travailed" as the shaman whirled the bull-roarer in the evening air.

To the sound of the groaning stick, the three figures entered the lodge. Darkness settled over the valley. Jenny came to say goodnight to me. By the light of the fire I noticed that her face was smeared with charcoal. There was a fanatical gleam in her eyes as she told me that she would listen all night in the house of song while her baby slept beside her. She went back with her child, leaving me alone on my cot. All through the night sweet juniper smoke carried its message to the sky. Out of the darkness came the sound of the medicine man's voice. By dawn, he sang:

*Hozona haste,*

*Hozona haste,*

*Hozona haste,*

*Hozona haste,*

meaning that the ceremony was completed in beauty.

While the old man stayed in the camp of the two sisters, he graciously related some of the myths. He told of



"NOT UNTIL THE FOLLOWING SPRING—IN 1925—WAS MY CAMP MADE AT THE BASE OF THE FANTASTIC CLIFFS OF BLUE CANYON"

*Etsanatilehi*, the Changing Woman. She was the daughter of Dawn Man and Darkness Woman, found on a mountain top by First Man, and reared by him and his wife. When she became a woman, First Man and his environment failed to satisfy the longings of a daughter of the Dawn. Lonely on the mountain she wandered knowing nothing of the glory that was to be hers. She was destined to marry the Sun God who built for her a turquoise house on an island in the wide water of the west. Her sons, the twin culture gods of Navajo mythology, traveled on rainbows, destroying the terrible monsters of the earth. The medicine man said that *Etsanatilehi* danced on top of the four sacred mountains, wearing costumes of precious gems. On the eastern mountain she wore a dress of white shell.

"Some Navajos call her *Yolkai Estsan*, the White Shell Woman," he said. "That is not her true name. We cannot speak the true name in the summertime. Only in the medicine lodge when the snakes and the thunder are asleep can the true name of the kind mother be spoken."

In a few days the shaman left Blue Canyon. His patient had improved so that she was able to be moved. The family began preparations to leave the camp by the cottonwood tree, the Pretty Lady having found it necessary to take her sheep to greener pastures. Just a moment of panic claimed me, then I was reassured by Jenny. My host had an obliging brother who lived



A GROUP OF WHITE-BEDAUBED CLOWNS—HOPI "DELIGHT MAKERS"

half-a-mile up the canyon. He was called Mr. Black Mountain and would welcome me to his retreat.

All of us helped to make the invalid as comfortable as possible. Her blankets and sheepskins were placed in the wagon-bed. The sun shone fiercely. Green cottonwood branches were tied to stand upright for a shade. My sketching umbrella contributed shade to the woman's face.

The cortage started on its way across the glaring sands. Already the flocks had been herded to the new camp. The Pretty Lady drove the ponies which pulled the wagon. Then came the shepherd boy on his pony. He wore a bright green felt hat of mine, bought in a San Francisco shop. He had adorned it with a bluejay's feather. Under his arm rested a pet kitten, in his lap a newborn lamb.

They were gone out of my life, but not out of my mind. Never would I forget the loving kindness of the Pretty Lady toiling for her family. Never could I forget her small son and the wordless understanding between us. Years later the memory of him became a book, *Waterless Mountain*, through which he traveled as chief character.

Jenny and I moved on to Mr. Black Mountain's camp. We found ourselves at the base of tall cliffs where we set up our cots and table of rough boards her uncle had hauled from I know not where. I continued to paint and to entertain my Navajo friends. I would buy a leg of lamb from them (or was it goat?). Seventy-five cents was the price. Jenny would roast it in the Dutch oven and the whole family would come to eat. Why not? I could not consume a leg of lamb.

One day an Indian rode to camp with my home letters. I was notified that a friend from the University wished to visit Blue Canyon to record Navajo songs. Dr. Lehmer was a mathematics professor at the University of California and a musician as well. He would be accompanied by his son, Dick.

When I finished reading the letters, I walked across the wash. I was wearing a much bedaubed painting smock, and must have looked as drab as the country. In the red dust of my outdoor life, I could not keep my white hair white. It had a way of turning pink when I washed it with the precious *toh*. I saw two cars approaching. Mr. Hubbell had driven out as escort to Dr. Lehmer and his son.

The two friends from Berkeley were repelled by the desolate expanse of sand and rock. I have no doubt they expected me to look as spick and span as I did at an evening party at home. I realized that a magic wand would be needed to convert the scene into one they would never forget. As soon as Mr. Hubbell left, I began my maneuvers. Jenny opened cans of our choicest food. Mutton ribs were procured to roast over a sagebrush fire. *Toh* was provided and placed behind a jutting cliff where the two men could clean the grime from faces and hands. They returned to my outdoor apartment refreshed and more cheerful. The sun set in surpassing glory, intensifying the scarlet flowers of the gilias, starrang the rocks with fire, and turning the silken buds of opuntia to lambent flame. Drabness was forgotten. After our camp supper we talked happily of Berkeley. My keen desire to hear the

*continued on page 34*



MR. BLACK MOUNTAIN AND HIS SON





SHIPROCK, NEW MEXICO

## ← 40 YEARS AGO FROM

● "Flying by jet is awfully boring—you can't see a thing at 30,000 feet." I had heard this often enough to be convinced of its truth. As a result, when I had to make an emergency trip to Ottawa, Canada, by way of New York, the only reason I went by jet was because every hour I could save was valuable. Aerial sightseeing was of secondary importance.

● The plane I was to take that December morning was scheduled to leave Los Angeles International Airport at 8:30, but halfway there the bus ran into fog, fog which showed no sign of lifting. Upon arriving at the airport I learned that many planes were circling above, unable to land, and that departure would be delayed. It was not until one o'clock in the afternoon that the giant jet took off.

● Despite my anxiety to be on my way, it was curiously reassuring to me that with all man's know-how and skill, so nicely exemplified in the gigantic, powerful, gleaming jet plane, the Almighty still was at the controls of man's time table!

● This was my first flight by jet, and I was astonished at how quickly and smoothly the United Airlines monster soared off the runway. To gain altitude we swept out over the ocean, bronze-gold in the early winter sun. Even as we climbed we began to arc back toward the east. Soon we were so high that the whole length of Catalina Island seemed but an inch upon the vast expanse of the glimmering Pacific, although its topographical details were clear and distinct—the Isthmus, then Howland's Landing.

30,000  
FEET  
UP

*By Harry C. James*

Mr. James is one of the Southwest's leading conservationists and Indian authorities. He is author of several books, including "The Hopi Indians," "Red Man—White Man" and the recently published, "The Cahuilla Indians."

□ *What rare camping experiences I had enjoyed there! That wonderful night when the ocean was phosphorescent and we swam and swam in the liquid fire. Then that morning in the mid-*

*twenties when we climbed above the fog and witnessed the awe-inspiring phenomenon of a total solar eclipse, by sheer chance the privileged few among the fog-bound thousands who had journeyed to the island for that event.*

- Forgotten were the pocket book and magazines I had brought along to relieve the boredom that had been prophesied. There was too much to see and too many memories to relive, memories indelibly linked with the sights below.

- Within seconds we were again over the mainland of California, the rough rugged mass of the San Gabriel Mountain Range standing out clear in all its complexity. There was Eaton's Canyon directly back of Altadena!

☐ *We liked to call it by its old Spanish name "Precipicio." One night when we were camping far up the canyon, Joseph Sawyer, now Sergeant O'Hara in the Rin-Tin-Tin TV series, stumbled and sat down right in the middle of the campfire. We ran after him, first aid kit in hand, to find him dunking his poor burned seat in a pool of cold water.*

- From Mount San Antonio, already white-capped, a snow banner was flying far to the east.

☐ *My first bighorn sheep! On that long-ago morning I was climbing San Antonio from Bear Flats above Camp Baldy—and suddenly there they were, a small band of California bighorn sheep, posed nobly against the skyline.*

- Abruptly the mountains were left behind and the desert seemed to stretch illimitably in all directions. Although it was only a little after one o'clock the winter sun was already casting long shadows across the vast expanse. At 30,000 feet the works of man fade into insignificance, even a major highway is but a pencil mark across the landscape, and only the great geological features of the land are of any moment.

- I could trace the widening wash of Big Rock Creek to the sand-colored ripples at its head—the Devil's Punchbowl.

☐ *At a campfire there more than 30 years ago one of our party held up a fragment of slickenside he had picked up that day. What was it? he asked as the firelight caught its polished surface. Just at that moment, into the circle of campfire light walked Dr. Levi P. Noble, probably the best qualified person on earth to answer that question, for he was a noted geologist and the supreme authority on earthquake faults. At that time he was living at Valyermo, just a few miles from the Punchbowl, living right on top of the fault he was studying. He was working on extensive studies of the dominant geologic features of southern California—the San Andreas Fault Zone.*

☐ *Eloquently and impressively Dr. Noble told us how the smooth shiny surface of slickenside is produced when two great rock masses press and slip upon each other. He went on to tell of the geology of the entire Devil's Punchbowl region. How disarmingly free from pretense a great man can be!*

- At the other end of the Big Rock Creek wash clustered the Lovejoy Buttes.

☐ *How many dozens of times have I camped under the big cottonwoods beside the little lake that Alexander Stewart developed there? Strange that Alec should have found his way to this*



part of the world. He was originally from Long Island and had worked with de Lesseps in that abortive attempt of the French to cut a canal through the Isthmus of Panama. He spent the rest of his life seeking the health which he had lost in Panama, and it was this search that resulted in his purchasing land in Antelope Valley at "the Lovejoy," as we called it. What salty, kindly, lonely characters old Alec and his handsome wife were!

□ The land around the Stewarts' wonderful surface-flowing spring had once been an Indian settlement and later a favorite roundup camp for early desert cattlemen. Endless were the hours spent in prowling around the granitic buttes, looking for relics of the past. And how proud we all were when one of our party found the most beautiful symmetrical obsidian knife I ever saw.

● A little red hill and a small huddle of doll buildings—we were over Barstow.

□ In the sands along the Mojave River nearby we had found our first Ocellated Sand Lizard with its delicate-fringed feet, an adaptation of scales that makes it possible for this lizard to virtually swim over the loose sands. Not far away, near Daggett, the Van Dyke Ranch. What a family! Henry, who wrote "God of the Open Air"; John, who did fine books on Grand Canyon and the desert; Woody, the motion picture director; and Dix, who as "Judge" Van Dyke used to hold court out under the trees by the barn. It was Dix who introduced me to the desert, and I could always count on him for support in every crusade to preserve the arid lands. It seems only yesterday that he guided us up into the Calicos—and when we had the campfire at Dry Lake, high up on San Gorgonio, Dix rode all the way over from the ranch to join us for the climb to the summit.

● Lava flows, cinder cones, dry lakes, sand dunes, high desert country speckled with juniper, pinyon and Joshua trees—and now we were over the Cima Dome region.

□ What an interesting desert state park it would make with its dwarf Joshua trees and its curious geological formations! Perhaps conservation groups should work for that some day.

● Away toward the northern horizon lay a great trough. Death Valley? Suddenly the relief map unrolling so smoothly far below was splashed with vivid color.

□ Those orange-red sand hills in Utah beyond St. George—Father Escalante found the going hard in that loose dry sand. The Parunuweap Canyon of Zion National Park. . . . The day the DeMilles, a stalwart pioneer Mormon family of Rockville, took us by wagon to see the ruins of Shunesburg, a ghost town since 1863 when a fierce cloudburst swept away the thriving Mormon settlement there. . . . Art DeMille's story of how, when he was out looking for a truant cow one day, he discovered a small cliff village built by Indians in the long ago . . . We followed Art up an old Indian trail into a narrow side canyon of the Parunuweap to see the site of those cliff dwellings—a calm and placid place by a cool spring festooned with ferns and mimulus.

● Now the majesty of Grand Canyon spread its 217-mile length across northwestern Arizona. The junction of the Little Colorado and the great river was clearly discernible. But well hidden, even from us so high above it, was Sipapu, the sacred entrance to the Underworld of the Hopi Indians. Somewhere, lost in the myriad canyon clefts, was the site of old Lee's Ferry.

□ We made a memorable crossing there once long

ago. *That terrifying stretch of narrow steep road leading up the cliffs beside the river from the ferry landing—a nightmare even today!*

- The black dome of Navajo Mountain was clear on the far eastern horizon.

□ *Is there any landmark in all the Southwest that can be seen from so many distant places? We camped within sight of it one night near a United States Geological Survey party that was engaged in making a reconnaissance survey of northeastern Arizona. It was a large party with a multitude of mules. The rich incense of cedar smoke rose from many campfires that night and there was good campfire talk by field scientists who loved the high desert. What a Salutation to the Dawn those mules performed for us!*

- Monument Valley lay in the middle distance.

□ *I thought of the morning, on one of our early trips into that part of the Indian country, when we woke up, after having made camp in the dark, to find that we had laid our sleeping bags on fossil dinosaur tracks!*

- The arms of the Hopi mesas were sharply etched, but not a single village could be descried.

□ *Was Tewaquaptewa, long-time village chief of Old Oraibi, looking high into the sky with his aged and tired eyes to wonder at the strange eagle dance we were doing so many thousands of feet above him?*

□ *Never to be forgotten was the night we slept out upon a house-top in Shungopovi, largest of the Second Mesa villages and scene of the loveliest of the Butterfly Dances. Again the incense of burning cedar rose on the night air, enveloping us in nostalgia. On the morrow there was to be a Niman Kachina ceremony, the last kachina dance of the year. Far into the night bursts of singing came from a nearby kiva, along with the steady heart throb of a great Hopi drum.*

- The imperative finger of Shiprock in extreme northwestern New Mexico was now directly below us.

□ *Could there be a more majestic marker for the region where the four corners of Arizona, Colorado, New Mexico and Utah come together? Now I could clearly see and understand the relationship to the peak of those strange "S" arms of precipitous ridges, like solidified fragments of some rocky nebula.*

□ *I recalled clearly the camp we made near Shiprock late one afternoon—one of the cars was having motor trouble and we had had three flat tires that day! Tired and worried, we had turned in early after a sketchy supper. Across the desert air drifted the high quavering song of a Navajo. We caught just a brief glimpse of him silhouetted against the last flush of sunset.*

- Some wisps of cloud—glorious iris effects toward the sun—then the vast snow tumble of the Colorado Rockies.

- With this the deserts were gone, those deserts where for more than 40 years we had camped and climbed and studied and stretched our eyes—and our minds, too—toward ever-receding horizons.

- Only at great altitudes does our Southwest fall into perspective. A person dropped directly into a deep forest would have a hard time seeing the forest for the trees. Likewise, one can so limit his ground-level horizons as to be able to see only the obvious details of the deserts and remain quite unaware of the massive sweeps of their geography and of their intricate relationships.

- Flying by jet boring? Nothing to see at 30,000 feet? Ridiculous! ///



# ACOMA-- the Sky City

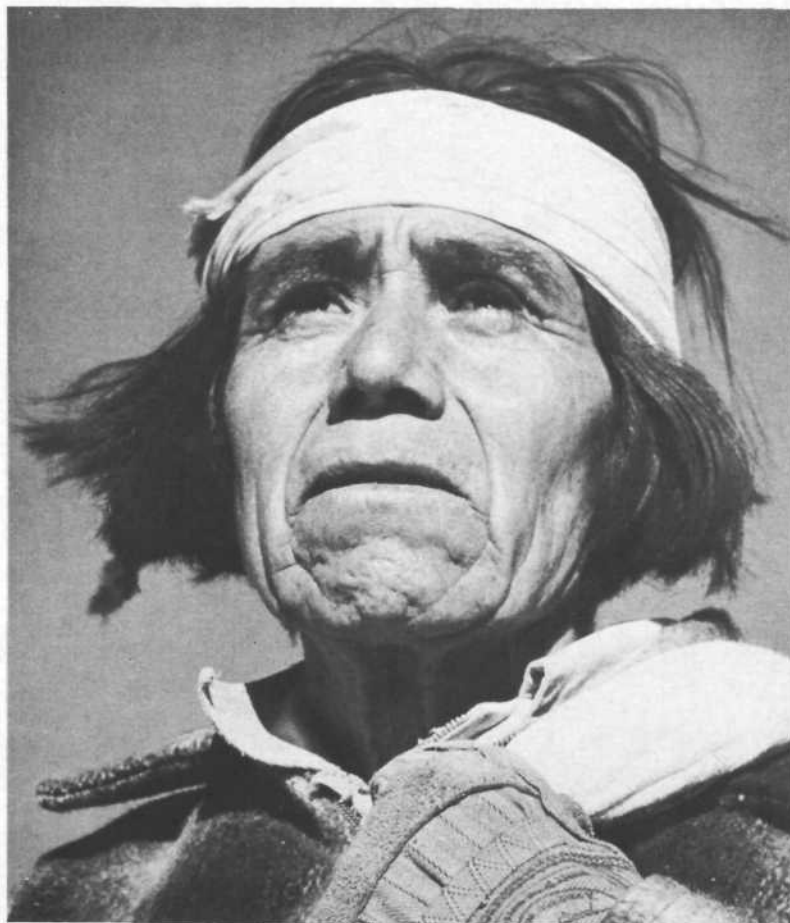
By MARY BRANHAM

**L**IKE MANY motorists who hurry across New Mexico on Highway 66—east to Albuquerque or west to Gallup—I had several times passed the historic marker pointing the way to Acoma without giving more than a passing thought to this extraordinary sky-built pueblo. It took a visit from out-of-state friends interested in touring the sky city to get me there.

On the 13-mile road leading from the highway to the village we passed several small herds of sheep and many tiny cultivated fields being worked by Acoma farmers. The country is fairly level and very sandy in spots, and the only trees are a few scrub junipers. Here and there, in the distance, great mesas rise abruptly from the sandy sea—and one of these is Acoma.

At the base of the 400-foot Acoma mesa there are corrals and a well. Some of the Acoma people live here. We welcomed the handholds carved in the cliff along more precipitous sections of the vertiginous trail leading to the mesa-top. We met an Indian farmer at the top of the trail where he had paused to rest and to look out over the vastness below. Like all of the Acomas we met, he was friendly and eager to tell us interesting events from his pueblo's illustrious history. He introduced himself as Walter, a former war-chief, and asked if we would like to take his picture. A few steps away stood Maria Chino, one of the genial guides who daily lead visitors through the long narrow streets, and point out the sights all tourists must see.

It was late afternoon when I saw the pueblo for the first time, and I



TOP—AN ACOMA WOMAN AND HER GRAND-DAUGHTER ON THEIR WAY TO CHURCH. THIS MODE OF TRANSPORTING CHILD IS ANCIENT.

WALTER, A FORMER ACOMA WAR-CHIEF



"AT THE BASE OF THE 400-FOOT ACOMA  
MESA THERE ARE CORRALS AND A WELL"





## Sky City --- continued

thought I was looking at some mysterious Tibetan citadel, for Acoma is one of the oldest continuously-inhabited villages in the United States. The thick-walled adobe houses appear much the same today as they did when Coronado's treasure-seekers came this way in 1540.

Maria explained that when white men first looked upon Acoma it was already an ancient settlement with rock and adobe houses three stories high. Every rock, all of the adobe, and every timber was carried up precipitous trails from the country below on the backs of these industrious people. Maria took us to visit one of the old three-story houses. She explained that entrance to the first floor was gained by climbing broad ladders topped by mystic symbols, and then climbing down through openings in the roofs. Then she led us down the rocky trail to the deep clear waterhole where Laura Gilpin has taken so many pictures of Acoma women filling pottery jars.

As we stood with Maria on the bal-

cony of the old convento looking down on the friendly pueblo, it was hard to believe that in these placid streets was written some of the bloodiest pages of Southwestern history.

The pueblo voluntarily accepted the authority of the Spanish Crown, but in 1598 broke its allegiance, and with clubs and flint knives bludgeoned to death a handful of soldiers who had been invited into the lofty town. The storming of the awful cliffs and the punishment of Acoma by the avenging Spaniards is one of the goriest episodes in the conquest of the New World.

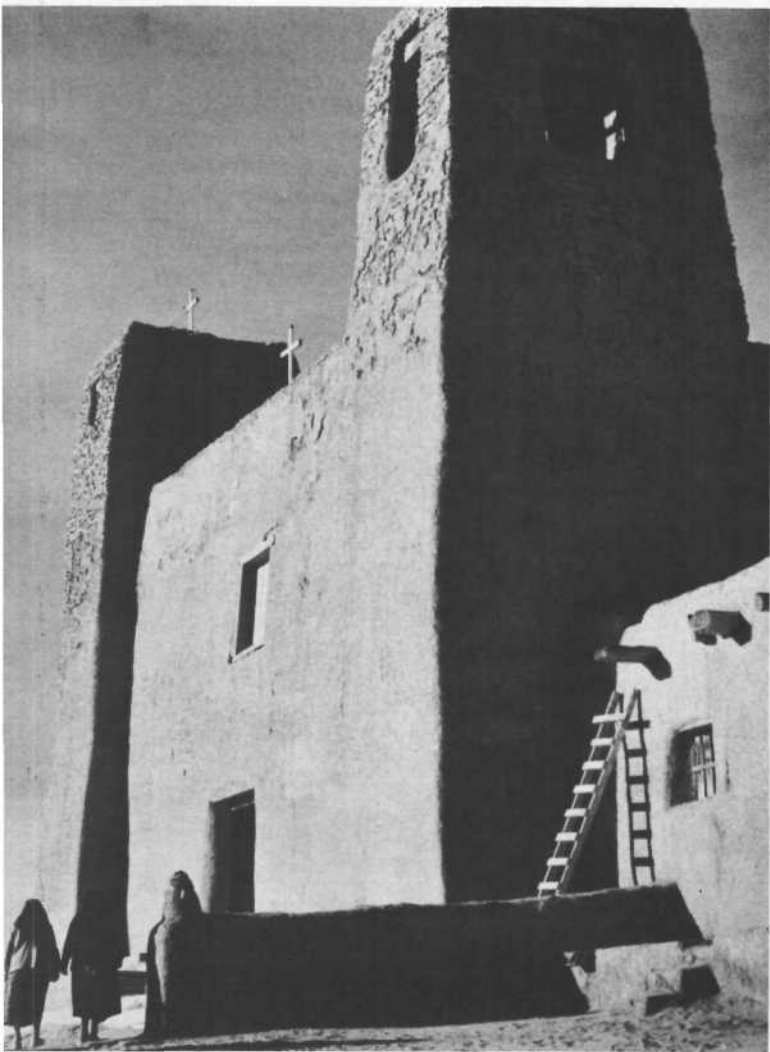
In the Pueblo Rebellion of 1680 the Acomas did their part by destroying the white man's church and dragged to death the Franciscan padres who had come to convert them. But, today the village boasts the largest and one of the finest of all New Mexico pueblo missions, started in 1700 and completed 40 years later. All of the building material for the great adobe church, with walls 60 feet high and 10 feet thick, was hauled up steep rock cliffs on the backs of pious

Indians. The massive ceiling beams, 40 feet long and 14 inches square, came from mountains more than 20 miles away. Maria told us that when some of the ceiling beams had to be replaced recently, it was such a monumental task that it took weeks of planning and work to raise the heavy timbers—even with the aid of modern equipment. She laughingly concluded that the present-day Acoma men are not as strong as were their ancestors.

Even more remarkable than the magnificent church, is the 200-foot-square burial ground, only one of its kind in the world. The devout Indians laid rock walls to form a giant square box on the bluffs in front of the church, and then filled it with soil carried from the plains below.

After shaking hands with our new friends, we reluctantly left Acoma, hoping to return soon. Though a sand ramp now makes access to the great rock easier, many inhabitants of the pueblo and many visitors still choose, as we did, to climb up and down by the steep stone steps that lead to this stronghold of antiquity.—END

ACOMA'S HUGE ADOBE CHURCH, DATING FROM 1700, HAS WALLS SIXTY FEET HIGH AND TEN FEET THICK



THE AUTHOR USES HAND-HOLDS TO AID HER CLIMB UP THE STEEP CENTURIES-OLD TRAIL TO MESA-TOP





• By J. S. PALMISANO

MY WIFE AND I had camped about an hour's drive south of El Rosario on Baja California's El Camino Real, in the long gradually-ascending canyon that gives the southward-bound traveler his first look at the Vizcaino Desert's strange and beautiful cardon cactus and cirio trees. It was shortly after we had washed the breakfast dishes that the two strangers showed up around a bend in the road. They were carrying their battered and greasy oil pan.

The two youths greeted us rather shyly, linguistically feeling us out to determine how easy or difficult communication was going to be with these two *Norte Americanos*. Jose was about 17, active and volatile; he spoke not a word of English but seemed convinced that loud repetition in Spanish, with plenty of gestures, would compel anyone to understand his meaning. Goyo, 27 years old, was a thin, sensitive, rather intelligent young man who acted as spokesman and leader for the pair. He spoke some book-learned English, but did so with difficulty; he lapsed into Spanish and stayed there as soon as he discovered we could handle that language a bit.

Gradually, pausing now and then to solve some vocabulary problem, they unfolded their story. They had teamed up in Tijuana to carry out what I considered a very optimistic scheme. They pooled their money and bought a used car, a 1946 Plymouth, and were heading south with the idea of selling the vehicle at a profit in La Paz, near the tip of the peninsula, and getting home again whatever way they could.

Jose, who had worked as an apprentice in a Tijuana garage, was a competent mechanic, and he had kept the car running without too much difficulty. But south of El Rosario where the road turns from bad to atrocious, they had impaled their oil pan on a jagged rock. At daybreak they removed the pan and were hiking back to El Rosario when they met us.

Jose fished a coil of solder from his pocket. Did we have a torch? If so he could repair the damage here and save the nine-mile walk to the village.

No, we did not have a torch. But we did have a butane stove in our camp-coach. Would that help? Jose shrugged and grinned. We could try.

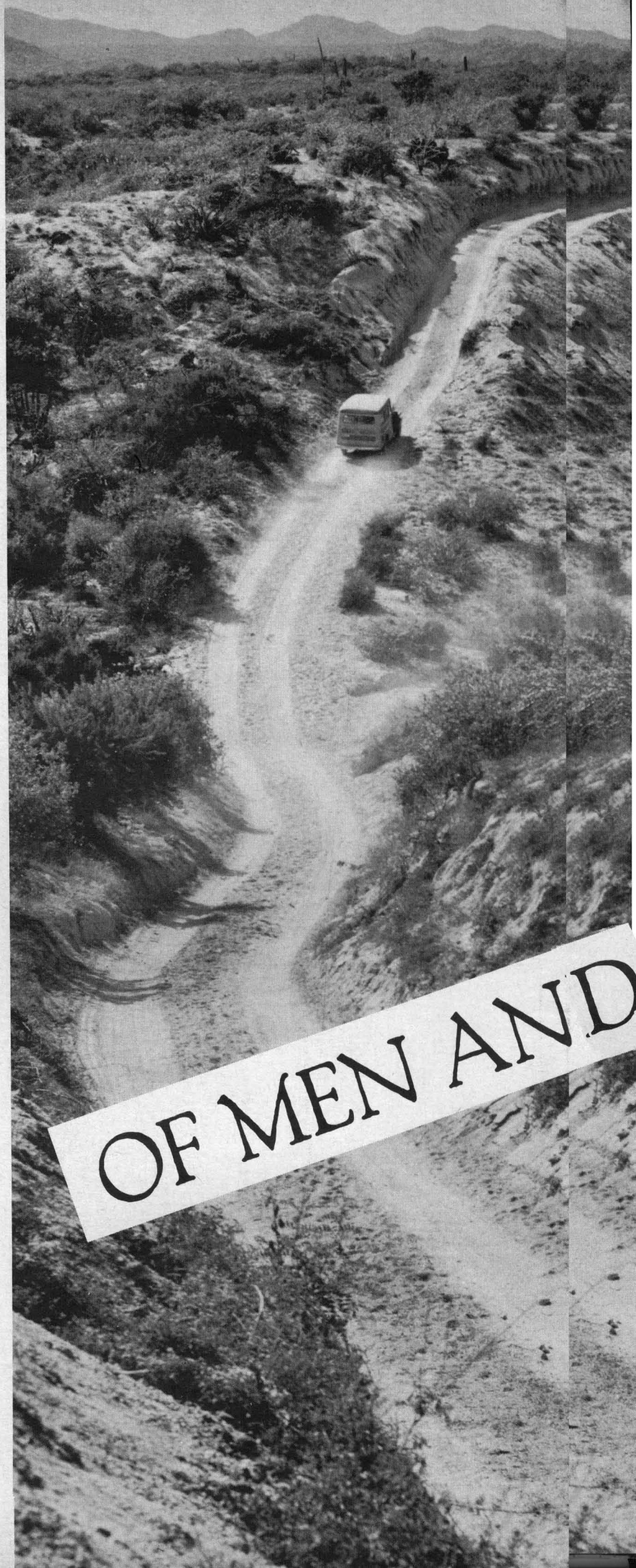
The experiment was a failure. Using a screwdriver for a soldering iron, we could not accumulate enough heat in the right places to make the solder flow properly. Eventually we gave up, and I offered to drive the boys and their ailing oil pan back into El Rosario.

This trip took exactly one hour. The stretch of road through Arroyo del Rosario offers a variety of hazards, including a generous layer of talcum-powder dust which, when there is a slight tail-wind, envelops the moving vehicle. One must stop every few hundred yards to let the dust cloud clear. With our two guests in the cab of the pickup, my wife had to ride in the camper—an arrangement that quickly brings on motion-sickness on that kind of road.

"*Momentito*," Goyo hopefully assured me after we had

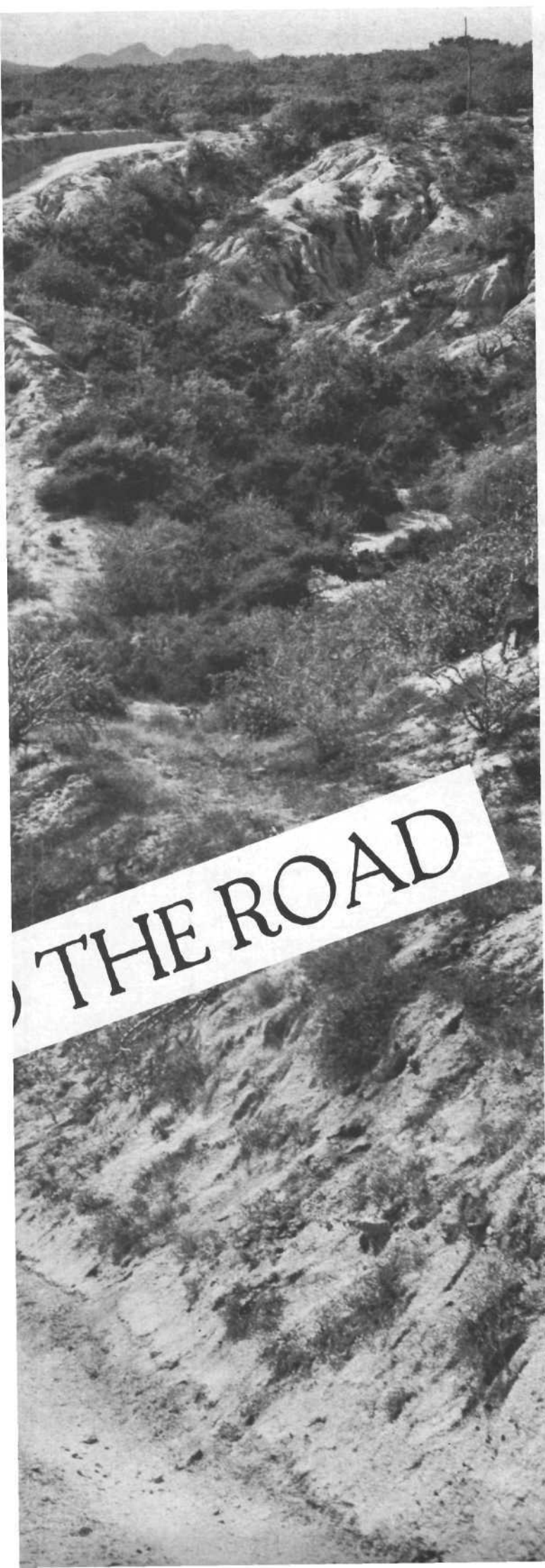
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J. S. Palmisano is an English teacher at the high school in Taft, Calif., and his wife teaches fourth grade. "Vacations and holidays find us heading for the desert in general and Baja California in particular," he writes. "We fish, collect rocks and shells, take colored pictures—but most of all we enjoy the sublime poetry of the wilderness." "Of Men and the Road" is the first article by Palmisano to appear in "Desert Magazine."



OF MEN AND





found a *mecanico* in El Rosario. I nodded, then settled down for a long wait. In Baja California nothing is accomplished in a *momentito*. Goyo insisted on treating us to a bottle of soda pop, and then we three sat against the shady side of a building and talked about bullfighters in general and Luis Procuna in particular. Meanwhile Jose supervised the repair job.

After an hour-and-a-half passed, Jose triumphantly presented himself with the oil pan, its wound covered with a shiny layer of new solder. We tied it securely onto the front bumper of our truck and once again headed down Arroyo del Rosario. More dust and grinding jolts, and motion-sickness for Betty.

When we arrived at the disabled Plymouth we discovered that the oil pan was no longer tied to the front bumper!

Back up the road we went, hoping against hope. Luckily, our lost prize was only a half-mile away. Unluckily, the mishap had broken loose the new soldering job.

By this time I was wearing a bit thin. The August sun was high, and I had had about enough of Arroyo del Rosario for one morning.

Holding my exasperation in check as best I could, I pointed out that we seemed destined for another trip into El Rosario. But, before taking another run at the road, I insisted that the four of us have lunch in the camp-coach. Jose and Goyo were duly grateful for all the trouble we were taking, but we assured them—stretching a point—that it was *nada*. Besides, I felt somewhat responsible for the second mishap to the unfortunate oil pan, since tying it onto the front bumper had been my idea. (I hadn't relished the thought of its greasy bulk bouncing around inside our nice clean camp-coach.)

While we were discussing the affair over a dessert of canned peaches, a truck came lumbering slowly northward along the road. This offered a happy solution: Jose, Goyo and the oil pan hitched a ride back into El Rosario. They assured us that they would not have to wait too long for a ride back to their stranded car after the pan was repaired. So we bid them farewell, then continued our own journey southward, having spent a half-day accomplishing absolutely nothing.

The next morning the boys and their battered Plymouth overtook us. For the next three days we more or less traveled together. Their poor car was aging visibly, and when we parted company at the Bahia de los Angeles turnoff, it appeared to me that the Plymouth would never reach La Paz in one piece. Whether it did or not I don't know, for we never saw Jose and Goyo again.

*Why do I recount this little tale?* Certainly not to parade my generosity, for that is far from noteworthy. Nor is this little misadventure remarkable in itself, except perhaps in its comic aspects.

There is one ironic detail in the story which I left out: *during those three days traveling together, I twice had to call upon Jose and Goyo to help me when I was in trouble*—once to repair a broken butane line, another time to re-secure our water tank after it ripped loose from its moorings on our running board. Without Jose's know-how and the miscellany of tools, bolts, nuts and spare parts he carried in the back of the Plymouth, I would have been stumped. But in both cases he had what it took to solve my problem, and both men offered help with obvious pride at being able to return the small favor we had done for them.

This is the significance of the incident, and it is a lesson

◀ THE BAJA CALIFORNIA ROAD ON THE TIP OF THE PENINSULA, BETWEEN SAN JOSE DEL CABO AND CABO SAN LUCAS



🏠 A ROADSIDE GASOLINE STATION AT LAS PLANES SOUTH OF LA PAZ

that the traveler in this arid land learns sooner or later. In *Los Estados Unidos* we are accustomed to living in high gear. We rush hither and yon, getting things done, meeting schedules, "making time," generally ignoring our fellow man, also engaged in the same urgent and self-centered pursuits. We roar down our divided highways intent upon our destination, never affording more than a casually curious glance at anyone stopped alongside the road with the hood up or tire flat. After all, we tell ourselves, why should we? We haven't got time. Besides, he probably wouldn't stop for us.

But in Baja California it is different in a way that captures the imagination and inspires respect. First, there is the land itself—one of the few remaining wilderness areas, beautiful and rewarding in its harsh way, but relentless in dealing with any man or beast foolish or careless enough to violate its rules. Secondly, there are the people—the ranchers, proud and generous despite their chronic poverty; the native truck drivers who ply the road, good-humored, talkative, robust in the traditional manner of stagecoach drivers and pony express riders of our own Old West. And there is the road—the twisting, winding, kidney-bruising wheel ruts that offer the only overland access to a thousand miles of desert peninsula.

Combine these three ingredients and you have a situation peculiarly epic in its way. The road is the challenge. The men who travel it are the "knights" who meet that challenge; their vehicles are the "weapons of combat."

There are roads and there are roads. Many times have I tried in vain to impress upon interested friends and acquaintances just how bad Baja California's El Camino Real is. Invariably they will nod smugly and proceed to tell me about the terrible time they had towing a 24-foot trailer over a detour in some National Park where the highway was being repaired. "Dusty, you know, and so bumpy! Just like a washboard. Why, we couldn't go over thirty-five miles an hour for the whole stretch. And it must have been over ten miles long. Seemed so, anyway."

Further protests on my part are a waste of time. How can one describe a road that is really no road at all, but simply the scene of past combats between trucks and wilderness? A road that snaps axles, smashes mufflers and oil pans, bursts cooling systems, grinds eight-ply tires to

a pulp? A road that wrenches the steering wheel from your hands again and again, slams you about in the cab like a die in a box, jars your teeth to the very roots as it hurls you over jutting volcanic boulders and into steep gullies. A road that allows you to cover 75 miles in a hard day's driving—only to promise another 75 miles of the same kind of punishment the next day, and the next, and the next. And how can a person who has not experienced this road understand my admiration for the people who travel it not simply once in a while as an adventure, but regularly as a routine matter in their daily lives?

These natives have an attitude of mind that is their secret of success. The novice will fight the road too hard, trying to conquer it by sheer grit and determination. But life is short and the road is long; it will soon exhaust him. Then, slowly, the driver learns to roll with the punches, compromising with the road, not allowing it to punish the vehicle too severely.

When trouble comes—as it inevitably does—he learns to curb his impatience, take it in his stride, sit down quietly and figure out how to repair the damage. There is no garage around the corner, no telephone.

The great beauty of this road is that the native truck driver who comes by an hour or a day later will not roar by with only a curious glance at our traveler's plight. He will stop, extend a cheerful greeting, exchange polite small-talk on the weather and the condition of the road. Finally, these essential pleasantries out of the way, the truck driver will offer his help. This will be a sincere overture, without expectation of payment other than the same treatment should the situation be reversed. He will stay an hour or two or more if necessary, cheerfully coating himself with dirt and sweat in this stranger's behalf, laughing at their mutual grime and making the usual local joke about their having accumulated much of the countryside upon themselves. The automotive problem finally solved, he will wave off the traveler's thanks with a careless gesture, bid him *adios*, and resume his trip.

This is a little drama which I have seen acted out many times in Baja California, not infrequently on occasions when I was the one in need of aid. It is a drama which the wise traveler in this land, despite his *gringo* propensities for avoiding delays and "minding his own business," soon learns to enact himself—for it is axiomatic in the wilderness that one's reputation goes before him and remains long after he has left.

If the Baja California back-country native is friendly and generous, he is also amazingly resourceful. Invariably he is something of a mechanic; he must be to keep his dilapidated pickup truck running despite the constant severe mauling it takes. This mechanical know-how is of a haphazard unorganized sort—but nevertheless it is real know-how. Behind every adobe house can be seen the rusted skeletons of two or three old vehicles, long since cannibalized to keep another vehicle (only slightly less disreputable-looking) in working order. It is of little importance if these wrecks are of different makes and models; somehow the parts will be fitted together to work. Having the "right" replacement part is a stroke of luck that seldom occurs and is never expected. Bailing wire will work wonders where real necessity exists.

In a half-dozen trips into this country I have seen many startling and bizarre examples of this automotive ingenuity. One truck I recall meeting on the road was utterly unrecognizable as any particular make or model. It had gone through 20 years of modification and improvisation, and was surely the most outlandish thing on wheels—but it ran. On another truck the cab doors were held shut by horseshoes inserted through holes punched



through each door frame. Front and rear wheels frequently do not match. Any tire that is of the correct rim size and that does not allow the bare tube to show through in too many places is regarded as usable. I can remember being looked at with pity when I pointed out to a native driver that he was stuffing the wrong size tube into his tire. Generally oil is not changed; it is simply added to when necessary. The life of a sparkplug ends when it disintegrates.

Brakes are a luxury. On our first trip into Baja California I broke a brake line and had to travel for a day-and-a-half without brakes, depending solely upon engine-drag in low gear to bring us safely down steep narrow grades. But my harrowing tale did not in the least impress the natives. After all, who has brakes?

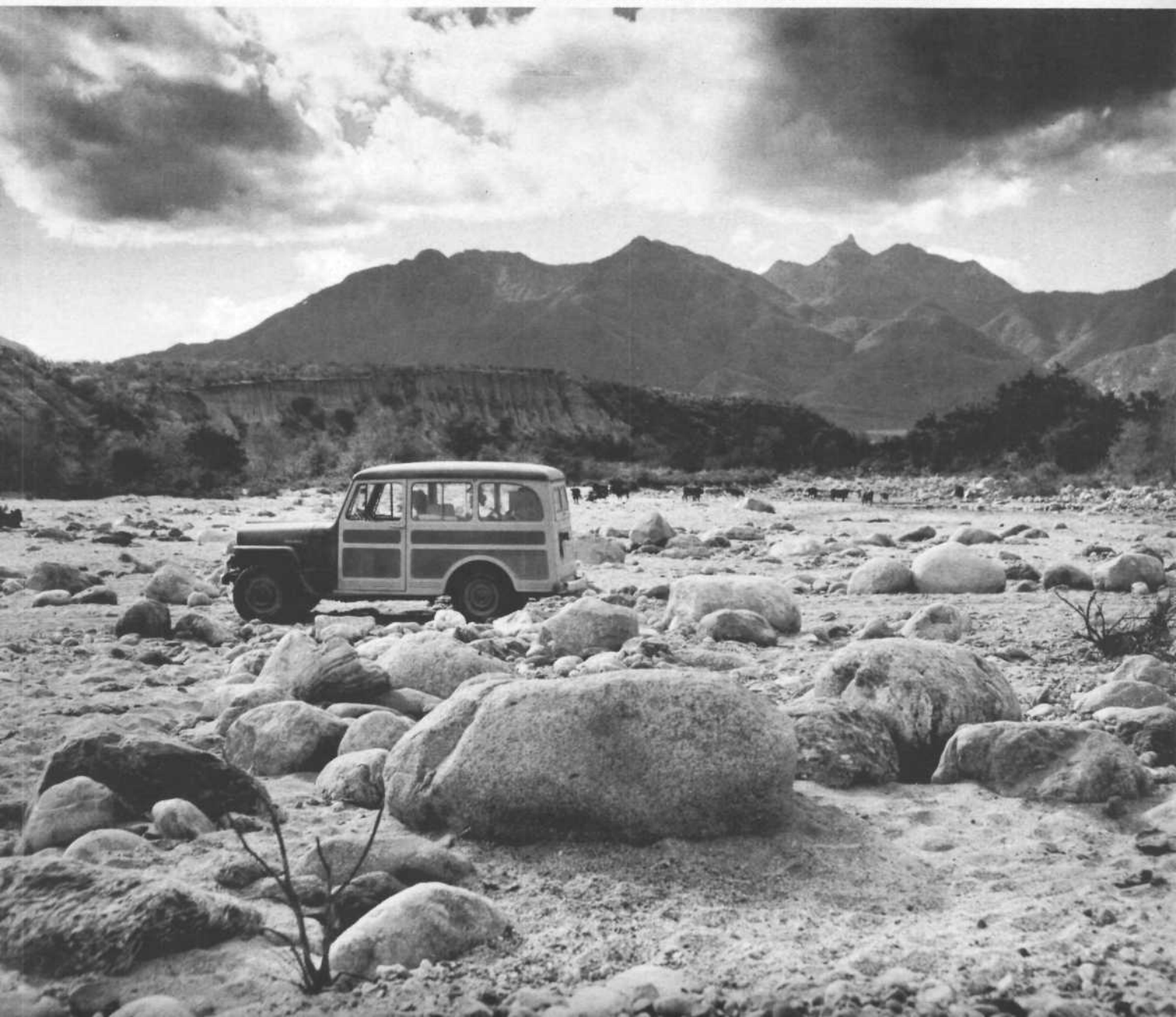
Occasionally this ingenuity in dealing with mechanical problems amounts to real genius. I know a native blacksmith who is an artist in the true sense of the word. His "parts department" consists of a motley heap of rusting scrap iron. Faced with a repair problem, he will browse thoughtfully through this junk heap, pick up a piece or two, and then go to work with forge, anvil and torch. The result is a replacement part that fills the bill perfectly. Last summer he repaired a chronically-ailing rear spring support on my pickup which stateside mechanics had twice unsuccessfully tried to fix. His job had held under the

severest tests—and cost me a fraction of what the other repair attempts had cost. On another occasion an American acquaintance of mine presented this mechanical magician with his more than slightly damaged Jeep station wagon: both front springs and the forward drive shaft broken. In short order they were repaired. The mechanic even added a couple extra leaves to strengthen the front springs so the same thing wouldn't happen again. The charge? Six dollars.

These, then, are two aspects of what the desert traveler will find if he ventures into the back-country of Baja California: a proud independent hardy people who accept their lot without complaint, yet who are willing to go out of their way to help anyone who is in trouble; and a quiet but constant contest between these people and El Camino Real.

There are other aspects—magnificent desert scenery, unique and interesting flora and fauna, fertile fields for the collector of gemstones and minerals, two lovely shorelines offering excellent fishing. But in terms of sheer inspiration to the modern urban man's jaded soul I feel that these latter aspects are secondary. The people and the road are what will awe him, humble him, make him resolve to be a better human being. In his contact with the road and these men, modern urban man will come to know himself better. And what worthier pursuit is there in the world than this: to know thyself?—END

➡ THE BAJA CALIFORNIA "ROAD" FOLLOWS THE BED OF A DRY WASH



# Reclamation:

# THOUGHTS ON SEEING THE DAM OF VALERIAN

By

WILLIAM E. WARNE

This is the fourth in a series of articles by Mr. Warne based on his observations in Iran during his work there as Point 4 Administrator. "The Ghanat" (horizontal well of Persian antiquity) appeared in *Desert Magazine's* February issue; *Natural Ice Factories*—March; *The Camel*—April.

AT THE EDGE of the Khuzestan Plain, not far from Gotwun where the Karun River issues forth from the Zagros Mountains, stands the old Persian city of Shustar, built in a great oxbow of the stream. I studied the map and could not imagine why my Iranian friend sitting beside me in our jeep kept saying that Shustar was built on an island.

Clearly, the Karun sweeps around the city in a wide arc, but just before closing the circle it turns again to course into the desert toward the Shat-Al-Arab through which, along with the rivers Tigris and Euphrates, it enters the Persian Gulf.

"It is because of the canal that we have come to speak of Shustar as an island," my friend explained. "The only way to reach Shustar is by ferrying the river, unless, of course, one crosses the Valerian Dam, as we plan to do."

"Valerian Dam," I said, half questioning, meanwhile thinking we should be there in a few minutes if our jeep does not slip completely off this track, wet from a rare shower.

"Publius Licinus Valerianus was a Roman Emperor 1700 years ago," I continued. "How does a dam in the 1950s in Iran happen to be named for a caesar?"

"It was built by the caesar and his soldiers," my friend said.

I had seen Roman aqueducts in Istanbul and Roman walls in Scotland. The ruins of a Roman city in Jordan, the name of which I never had heard before first seeing it, were so wonderful that it taxed the mind to guess what caused it to be abandoned.

"I never heard that the Roman Empire extended beyond Mesopotamia," I said.

My friend reassured me. "The Roman Empire never included any of Iran," he said. "You are quite right about that. The Emperor Valerian and his army were captured by Shapur I at Edessa. They were brought here, and in captivity built the dam."

Valerian was a most exalted man of his time. One of his predecessors, Emperor Decius, as quoted by Gibbon in *The History of the Decline and Fall of the Roman Empire*, had said: "Happy Valerian, happy in the general opprobrium of the Senate and of the Roman Republic! Accept the censorship and judge our manners."

To what depths do the fortunes of men fall? I asked the question silently.

We swung around a bend and the minaret of a mosque in Shustar showed above a low hill. Suddenly we came upon a deep breath-taking gorge. The jeep stopped. On the top of the cliff at the opposite wall could be seen some of the buildings of Shustar. The dam was at our right. Below it plumes of white water gushed from walls at either side.

"This is the canal. You see now why we say Shustar is on an island." My friend had to raise his voice to be heard above the roar.

Now it was clear. The neck of the peninsula formed by the interior of the oxbow of the Karun River had been cut by a deep canal. A part of the flow of the river was short-circuited through this canal, so indeed water did appear all around Shustar. There is a site on the Missouri River in South Dakota like this. We called it, unimaginatively, the Big Bend Dam and Power Plant in the comprehensive plan for the development of the Missouri Basin as authorized by The Congress in 1944. In the instance of the Missouri oxbow, the neck is being penetrated by a



OUTFALL OF A TYPICAL PENSTOCK BELOW VALERIAN DAM. SOME OF THE SHUSTAR BUILDINGS ARE SEEN ON TOP OF THE CLIFF. ➡

tunnel, and the hydraulic head accumulated at an electric power plant at the riverside downstream. Here the neck was slashed by a canal to concentrate the drop upstream.

The dam of the caesar, itself, was not so much. The canal, deepened by centuries of erosion, was the thing. Most of it was through hard rock. The original rock had been left at the head of the canal, and a fitted masonry control structure about 25 feet high had been erected on top of it to insure that the river would not turn into the new course.

The plumes of water I had seen were pouring from the outlets of penstocks. This was a water power dam built more than 1400 years before Benjamin Franklin flew his kite and excited the studies that led to the electrical age. Water was diverted into tunnels and dropped through them to the canal below. Enroute the falling water turned wheels ingeniously placed in man-made caverns. The water wheels were hitched into mills, whose stones ground grain for flour. The mills were in use, functioning as they must always have functioned since the project was completed.

The diversion for water power across the neck of the oxbow was only part of a multiple-purpose project that would have done great credit to modern project planners.

A carefully devised diversion structure assured proper head at the dam. Downstream, a gigantic low-head barrier was in partial ruin. It stretched clear across the river as the Karun swept into the arc of the oxbow. Canals for irrigation of a portion of the Khuzestan Plain formerly took off from this barrier.

Gone. Gone with the centuries were the irrigated farms and farmers that the diversion once served. Iranians say their country has been invaded and overrun 13 times. They say the planned disruption during conquest and the slaughter of the population made it impossible to maintain complex irrigation systems. Once a system fell into disuse, the surviving people became nomads in the hills. I wondered whether the lands had not been salted. From the air I could follow the old canal lines, but I could not detect any drains.

The population of Iran today is believed to be but a fourth of that which generated the civilization that built Susa, Ecbatana, Persepolis, Naishapur and Rey. The desert has reasserted its dominion over vast areas once fruitful.

In the midst of all this sad evidence of deterioration stood a spanking new 500 kilowatt electrical generator on the toe of the Valerian Dam. It was like a new sprout growing at the root of a burned-out *Sempervirens* Redwood tree. Following along behind this revival of the vital life at Valerian Dam, engineers and planners were again busy in the Khuzestan Plain, planning the reclamation again of the areas that once made Persia great. There is an excitement about these first stirrings of what may be a reawakening of a great people.

A thesis was put forward not long ago that the great dams of our day on the Colorado, the Columbia and other rivers of the West would hundreds of years from now be considered the hallmark of our civilization. Valerian Dam gives clear promise that our dams will survive. But what of the people they serve?

Two of the contests of Sasanian times, the struggle of East versus West, and the struggle of man with inhospitable environment, go on today.

Some in the United States contend that irrigated agriculture is impermanent. They say this in prophesy of doom or to extenuate careless land and water practices. In the



Rio Grande Valley, however, some farms still producing have been irrigated for 350 years. I have seen a garden of about 60 acres near Shiraz in Iran that has been continuously watered for 650 years. It is called the Garden of Heaven and its history is documented. The Valley of the Nile provides a historical example of long-continued success. For one who has observed one of the most important examples of irrigated agriculture in the United States—the Imperial Valley—for almost 50 years it is heartening to see that the valley is in perhaps its best condition at this time. Almost three-quarters of the land is tilled, and drains are available to virtually the whole of the reclaimed area. Tillage is improved. Production is higher than in earlier decades. Fifty or 60 years is not 500 or 600, but a successful beginning has been made.

Today we nervously regard the building of dams in Russian Siberia greater than any in North America. We are sensitive to the age-old struggle that swept Valerian into oblivion beyond the iron curtain of his day.

The even older contest of man against nature goes on inexorably about us. No irrigationist would gainsay that there have been many extensive examples of the failure of agriculture based on irrigation, perhaps more failures than long-term successes.

Shapur and his people eventually lost in the fight against the desert, with the great Khuzestan Plain the prize. In losing to the desert, their victory over Valerian at Edessa was rendered unimportant, for the Persian people perished.

The lesson for our day in all this might be: Husband the land. Conserve and use the waters well. Apply technologies to the formation of a secure environment for ourselves and our children.

The future certainly will not belong to the people who fail to hold off the desert, whatever else betide.—END



A lady from the East moves  
to Tucson's outskirts and discovers a new  
world of interest in wildlife through her living room window

By ROANNA H. WINSOR

*"Perhaps, essentially, the desert is peace, or so ideal a representation of peace in the physical world that its atmosphere seeps quite inevitably into the mind, and in time one may even acquire the sort of faith which is willing to leave mountains where they are . . ."*—Roman MacDougald

**T**HIRTY YEARS ago, while visiting a college friend in New Mexico, I fell in love with the desert. Every vacation I could manage thereafter—and every penny I could spare

—brought me West for short visits. As a fifth grade geography teacher with the curriculum, "These United States," I'm afraid I emphasized the West. Later, as geographic editor for Eastman Teaching Films, I managed to get the assignments for writing educational scripts on Western films.

When all my ties with the East were broken, I sold out and headed West in a station wagon that I named, "No-Where." I was after one thing: the Western way of living—to be able to live as easily and comfortably as I could within my means; to have a minimum of harassments; to be able to enjoy life alone or with friends to

its fullest; to have a rich and abundant outdoor life and room for incentive and mental growth.

I chose southern Arizona for my new home. Here was beauty, color, a good university and variety of life. Nine miles out in the desert on a quiet shoulder of the foothills I built my simple home. To the west rise the jagged peaks of the Tucson Mountains; on the east the comforting bulk of the Catalina Mountains. In the luminous pale morning light these mountains are gentle and friendly. By high noon the desert claims its own and the mountains recede to a mere cardboard backdrop against the vault

## the Desert at my Window



of blue. At night, black as ink under star-sprinkled sky, their presence emits security.

My roots started down—but much to my surprise, this isolated spot was not where I was to find the uninhabited solitude I had expected.

First came the little ground squirrels, scampering through the spiny vegetation. Quick, alert and mischievous, they ran right over the cacti in their games of chase. A Gila woodpecker scolded me from his perch on my giant saguaro cactus; a gilded flicker flashed gold across my vision. As evening shadows crept toward my home, so did the tiny white-footed mice.

And so began my wildlife parade. I put floodlights on each corner of my house so I wouldn't miss a minute of Nature's fantasy. Up went a bird feeding station and two watering places.

A few nights later a fleet shadow brushed across the farthest fringes of my lights. As I stared into the blackness, a coyote took form. Quickly he stole a drink, then dashed into the night. Minutes later I heard him chuckling at me from a distant ridge.

Papa Gambel's quail was very cautious. When he was sure all was safe, he gave a low whistle and out of the bushes came Mama and her chicks. The Indian file uncoiled straight for the food and drink.

My yard became a stage—and as on every stage there came a time for

the playing of tragedy. Through my living room window I learned how life adapts itself to nature. Spine, fang, sting, claw, beak, speed and cunning—all for survival.

Gentle birds I knew and loved in the East for their soft rustle of wing and sweet song, here vied with their neighbors in an open battle for existence. The thrasher may sit on a cholla and pour out liquid melody, to cease abruptly and with one swift motion snap his vicious scissor-beak on a luckless insect.

No leafy trees existed for the weary, and so along my wide porch I planted vines—broad-leaf ivy that thrives on little water. In this tangle many bird visitors find temporary rest.

When the full summer heat of the desert arrived, silently and gracefully came the mule deer. They ventured in each evening, bringing their dappled young to drink and feed upon the good fresh alfalfa I spread out for them. One threatening movement in the surroundings and away bound the deer—all four feet hitting the ground with the tinkle of a pingpong ball.

Sleepless nights were not assured. When Mama javelina brings her babies in to drink, there is always an accompaniment of sloshing water and grunting. One night it was the sound of "clashing hockey sticks" that awakened me. I snapped on the flood lights and saw two bucks horn-locked in battle over a doe.

When summer was at its hottest I received a visit from a shy porcupine. The nights brought no coyote call, the days no bird songs. Only the thunderheads moved in the sky. Suddenly, the lightning cracked and torrents of rain poured over the parched land. The earth awakened. Wildflowers appeared. A green mat covered the desert, and with it life was renewed. Snakes slithered over the cooled

ground; scorpions and tarantulas began their hunt; the miraculous toad appeared from nowhere to snare bits of life with his wicked tongue. A bird tried to break my eardrums with his song.

I feel no savagery here. Only life as it is and as I have been privileged to see it. All I ask is time enough to learn from the wildlife parade, daily passing in front of my window, its greatest lesson: courage.

## Turn Page For Wildlife Photos



Roanna Hill Winsor was born on the Choctaw Reservation where her grandfather was an Indian agent. The family moved to Pennsylvania when she was a year old, and Mrs. Winsor lived in the East until a few years ago. She is a graduate of Pennsylvania State University, and took post-graduate studies in journalism at Columbia University. Mrs. Winsor now makes her home in Tucson, setting for the accompanying feature article. Her work has appeared in a wide variety of periodicals.

## THE DESERT AT MY WINDOW--continued



COYOTE PUPS



A JAVELINA--SOMETIMES CALLED "PECCARY" OR "WILD PIG." THEY WEIGH BETWEEN 40 AND 60 POUNDS. THESE ANIMALS USUALLY RUN IN BANDS.

A PORCUPINE ENJOYS A FREE HAND-OUT AT THE WINSOR HOME





# The Strange and Wonderful Agave

By  
EDMUND C. JAEGER

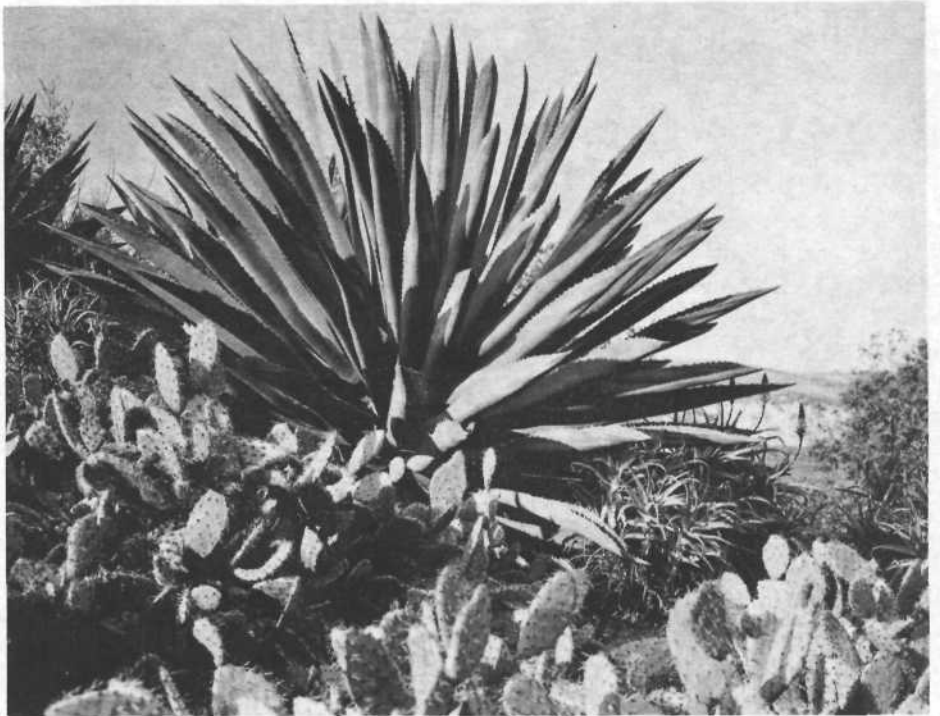
Author of  
*Desert Wildflowers,*  
*The California Deserts,*  
*Our Desert Neighbors,*  
*The North American Deserts*

GROWING WIDELY over the hot deserts and arid-tropical areas of southwestern United States, Mexico and Central America are those grotesque succulent plants, agaves, sometimes called century plants. The latter name is misleading since the plants may bloom not just once in a hundred years, as is often stated, but perhaps after only six or seven years if growth conditions are favorable.

There are some 200 different kinds of agaves. Mexico alone has 170 species, Arizona eight, California three, Texas three, New Mexico five, Utah and Nevada one each. Some kinds have tongue-shaped leaves only two or three inches long, while others have leaves shaped like giant daggers measuring up to six feet in length. The widely-grown *Agave americana* is said to have the tallest flowering stalk of any American plant. The generic name agave (pronounced ah-GAH-vay) is derived from the Greek word *agavos* meaning admirable or noble. Agaves are members of the amaryllis family to which our common garden narcissus belongs.

Many of the larger kinds of agaves were of great economic importance to aboriginal peoples. Almost every part of the plant was utilized. The agaves furnished a dependable source of food, fuel and fibers as well as a desolating beverage. Indeed, the agaves and certain of the juicy-fruited cacti formed the two main subsistence plants of the Baja California Indians, especially in drouth years, since the growth of these plants is little affected by the vagaries of climate. All of the early Jesuits and explorers stressed the importance of agaves in their accounts of food resources.

Says Dr. Homer Aschmann in his recently published *The Central Desert of Baja California*: "Utilization of an agave involves its complete destruction. The plant produces seeds profusely but they rarely establish themselves. I have never observed what appeared to be a small seedling growing by itself. The smaller species,



AN AGAVE AMERICANA GROWING IN A DESERT GARDEN

which are the most abundant ones in most parts of the Central Desert, are generally found in clumps, which represent offshoots of some ancient progenitor. After finding such a clump an Indian woman could cut and carry enough hearts to feed her family for some time, but this procedure might entail the complete destruction of a plant community that was the product of decades, perhaps of centuries, of slow desert growth. The long cooking process required that the plants be carried back to a camp site near a water source, and they are bulky and heavy. The hills nearest places of permanent water appear to have been scoured clean of agaves; the surviving stands were in places least accessible from waterholes. In the driest times, when several bands were forced to congregate at each of the few enduring waterholes, the pressure on the nearby agaves may well have resulted in local extinction of the plant."

The most common agave of the Sonoran deserts of California and Baja California is *Agave deserti*. It forms large colonies on rocky mountain slopes and in the broad boulder-strewn washes. The flowers borne on six to eight foot stalks are yellow; leaves are strikingly gray-green and armed with vicious hooked pale-gray prickles and strong dark brown or reddish terminal

spines. Like most of the agaves, the marginal hooked spines leave beautiful lace-like imprints on the smooth leathery upper and lower surfaces of adjacent leaves.

The Colorado Desert Indians went to the mescal areas every spring to prepare stone-lined baking pits for the roasting of the succulent sugar-filled budding flower stalks and butts. These were pried loose from the rosettes of spiny leaves with a long stout lever of juniper wood fashioned especially for the purpose and sharpened like a chisel.

A big fire of dried brush was built over the pit and when it had burned down the pieces of mescal were placed in the hot ashes, covered over with hot stones and earth then left to steam and bake until the next day. When the pits were uncovered the mescal, charred and still steaming, was eaten on the spot or cooled and taken home for future use. If the baked buds are young and tender the resulting food is sweet, resembling a baked yam in flavor, but if the buds are more mature the prepared agave is coarse, fibrous and has a strong alkaline or bitter taste—I know for I have eaten barbecued agave. Around old mescal feasting grounds one sometimes finds wads of chewed fibers that proved too tough

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**AGAVE . . . continued**

for the Indian to swallow.

The most commonly planted agave in American gardens is the massive *Agave americana* and its variety *variegata* with yellow longitudinal stripes on its large, thick, often twisted or bent, leaves. This is a Mexican species widely planted in low flat lands and hill slopes in that country for use in making an intoxicating drink called pulque. It is also valued as a source of strong coarse fibers useful in the making of sacks, cordage and mats. The plant has become naturalized on the Mediterranean Riviera and now has taken its place as one of the most characteristic plants of the landscape.

There are four names connected with agave about which there is much confusion — maguey, mescal, pulque and tequila.

*Maguey* (pronounced mah - gay) is a name applied to any of the big fleshy-leaved Mexican agaves. *Mescal* (meth-kahl) is sometimes used in the same way but more properly it is the name of a fiery drink made from the juice of the maguey. *Pulque* (POOL-kay) is a yellowish fermented drink, stronger than whiskey, made from the juice of the agave. As soon as the flower stalk is formed the stalk is cut off and its base hollowed to make a cup from which several quarts of the sugary sap are collected twice each

day. The sweet juice is sometimes fermented in vessels of rawhide. At first it is a pleasant tasting beverage but with age acquires a rank putrid smell from long contact with the hides. *Tequila* (ta-KEE-la) is a colorless liquor distilled from pulque. Its name is derived from Tequila, a place in Jalisco famous for the distillation of this devastating intoxicant.

Commercially, the most important agaves are those producing *sisal*, a hard fiber cordage, and *henequin*, the chief source of binder twine.

*Agave shawii*, named after Henry Shaw, founder and donor of the Missouri Botanical Gardens where extensive collections and studies of the agaves have been made, was once found in considerable numbers in the United States near San Diego, but building developments there have quite exterminated it. However, in arid Baja California it is still a near-dominant plant on many of the rocky hill-sides and slopes facing the Pacific Ocean. A very showy species it is, with short stems and shapely compact rosettes of rather short dark green spine-toothed leaves. The large clusters of yellow flowers are borne aloft on the horizontal side branches of a tall stout stalk. All persons traveling the road between Tijuana and Ensenada in autumn, winter or spring, when this plant is in flower, are certain to notice its abundant colonies and admire its lovely flowers. Many a

**True or False**

It's quiz time again, and knowing the answers to these questions is the surest way we know to determine one's Southwest I.Q. Twelve correct answers is fair; 13-16 good; 17 or better, excellent. Answers are on page 39.

1. A north and south line through El Paso, Texas, would pass west of Santa Fe, New Mexico. True.... False....
2. 150 pounds is not an excessive load for the average burro to carry. True.... False....
3. The blossom of the Joshua Tree is orange. True.... False....
4. Indians of the various Southwest tribes never intermarry. True.... False....
5. The Hassayampa River flows directly into the Colorado River. True.... False....
6. Talcum powder originally comes from mines. True.... False....
7. The "Great White Throne" is in Zion National Park. True.... False....
8. The Gulf of California was once known as the Sea of Cortez. True.... False....
9. An atlatl was a weapon used by prehistoric desert Indians for killing game. True.... False....
10. Indians living in Monument Valley are mostly Paiutes. True.... False....
11. The "Old Plank Road" over the dunes between Yuma and Imperial Valley, Calif., is now a National Monument. True.... False....
12. The bite of a tarantula is deadly to man. True.... False....
13. On a clear day the Funeral Range is visible from Silver City, New Mexico. True.... False....
14. The fabulous Seven Cities of Cibola yielded more gold to the Spaniards than did the cities of the Aztecs. True.... False....
15. Prescott was once the territorial capital of Arizona. True.... False....
16. Death Valley National Monument is closed to visitors during the summer. True.... False....
17. Snake Dancers in Hopi Ceremonials are always men and boys—never women. True.... False....
18. Rainbow Natural Bridge was constructed by prehistoric Indians before the year 1300 A.D. True.... False....
19. The old mining camp of Randsburg, California, is now completely deserted. True.... False....
20. Best way to "beat the heat" is to limit your liquid intake. True.... False....



camper in this region has found the dried leaves and flower stems of this agave about the only fuel available for a campfire.

On the rough stony limestone mountains of arid southern Nevada and southeastern California grows the neat and attractive midget agave, *Agave utahensis* var. *nevadensis*, with narrow gray-green leaves only about four inches long, each armed at the summit with a long stiff spine. Although the plant is small, it sends up a surprisingly sizable flower stalk—up to 8 feet tall. On this stalk are borne yellow fleshy-petaled flowers in abundance. This is the supreme effort of the plant's rather short life, and afterwards it dies. Offshoots continue the life of the colony. Propagation by seeds is not uncommon.

*Agave lecheguilla*, with bluish to green leaves, is so abundant on the dry limestone soils of Northern Mexico (Chihuahua south of Zacatecas) that the area is sometimes called the "lecheguilla desert." Its fiber, called *ixtle*, is exported; domestically it is used for making bagging, brushes, rope and coarse twines.

I am surprised that more desert residents do not make our hardy long-lived and handsome agaves the major plantings in their gardens. There is a great variety of available species — many strange forms and varied shades of green leaves which always present an imposing attention-compelling sight. Almost all kinds, once planted, require no further care and but little water. A good soaking from rains or irrigation twice a year is all they ask. The young plants should be widely spaced (five to six feet apart) to prevent crowding

when they mature. And what a sight presents itself when from the center of the clusters of handsome dagger-like leaves the stout majestic asparagus-like flower stalk thrusts its way upward at the rate of six to eight inches a day to become a 20 to 30 foot panicle of white to yellow flowers borne on divergent branches! When in flower every plant is a mecca for hummingbirds and bees all through the sunny hours, and, at night, come moths, all of them seeking the sugary nectar. The fruit clusters are made up of three-celled more or less globular or oblong capsules containing flat black seeds. These clusters, often of beautiful shades of brown, are wonderful for use in dry flower arrangements.

Agaves are sometimes confused with aloes. The latter are wholly Old World plants, mainly South African (Veldt and Karoo). Aloe leaves are usually fleshy, mottled and seldom rigid; moreover they lack the strong terminal spine. The rather small tubular flowers, often coral pink, red or yellow, are borne on a rather short flattish stem which arises not from the center of the rosette of leaves as in the agaves, but from along leaves farther down the stem.

Agaves have not only been useful to man but also to a host of small creatures ranging in size from the tiny pinhead-size beetles whose larvae feed and come to maturity inside the dying flower stalk, to white-footed mice which build their compact nests in among the dead basal leaves, and to birds as large as the jaunty-mannered cheery-hearted cactus woodpeckers which often hollow out nesting cavities in the old flower stalks and there raise their broods of noisy youngsters. It is a very safe place for them to nest since snakes, the chief enemy of young birds, find it quite impossible to climb the long pole of pith and fiber to reach the nest. Frequently the birds may be seen flying from one agave to another, alighting on the stalk and warily hitching upward and around while giving their distinctive high-pitched call note.

Not long ago I found a Costa's hummingbird's nest tucked neatly away in a cluster of last season's dried fruiting capsules. That was a wise choice for a nestsite, too. It was May and nearby were scores of agaves in full bloom and providing an abundance of sweet nectar. All through the sunny hours the parent birds were shuttling back and forth from flower cluster to flower cluster.

Desert wood rat "nests" of sticks and stones are numerous in all our local agave areas. They are usually most abundant in the agave clumps

## POEM OF THE MONTH

### Sun Stroked Hills

By

THELMA LETZIG  
Palm Dale, Calif.

The sun did more  
than shine today;  
It took a hill  
of desert gray,  
And just when passing  
from our view,  
Painted it a dull  
orange hue.

And then without  
a backward glance,  
Leaving all  
effect to chance,  
It slipped behind  
the mountain high  
And wiped the brushes  
on the sky.

*Desert Magazine pays \$5 each month for the poem chosen by the judges to appear in the magazine. To enter this contest simply mail your type-written poem (must be on a desert subject) to Poetry Contest, Desert Magazine, Palm Desert, Calif. Please include a stamped return envelope.*

found near the margins of washes near the bases of mountains. Sometimes the big-eared rodents are seen in the daytime, but darkness is their time of greatest activity. During severe drouths wood rats may gnaw the agave leaves to get at the sap-filled fibrous pulp.

Antelope ground squirrels often make their burrows in the hard-packed earth just beneath or about the base of agave leaf clusters for protection from predators. Sometimes they make their "observation posts" on the leaves; occasionally they climb the tall flower stalks to harvest seeds from the ripening capsules at the top.—END

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## Days Spent In Blue Canyon

— continued from page 14 —

news from home caused Dr. Lehmer to inquire if I did not feel lonely, staying week after week in the canyon.

"Not in the common sense of the word," I answered. "Any woman who has raised a child or lived with a husband is not lonely in her head. It is too full of the details of their care. She wonders if Tom sent the linen to the laundry, or if Dick's socks are holding out, or if Harry is eating the proper food. The trouble is, such details get in the kinky brain and stick.

Here, with the Navajos I am not hampered by trivialities, but I have learned that 'One must win his own place in the spiritual world, painfully and alone. There is no other way of salvation. The Promised Land lies on the other side of a wilderness.'

Dr. Lehmer's blue eyes gleamed mischievously. "You must be very near to the Promised Land, having experienced all this wilderness. I don't see how you can endure such living conditions."

"I don't see how you can tolerate these long-haired men around," added Dick. "Don't they ever go to a barber?"

I assured him that his discomfort would disappear when he heard the songs. I took time to tell him how important long hair is to the orthodox Navajo; how in the myth of *Dsylyi Neyani*, the boy wandering to escape the enemy Utes was aided by the holy ones. In the house of the Butterfly Woman, with rainbows all about, the young wanderer was bathed and his hair made to grow long. Then he was ready to learn the sacred songs. Long hair gives strength, power and beauty. The Butterfly Woman was no Delilah, shearing her Samson.

Soon the Navajo friends joined us. Mr. Black Mountain, sitting on the running-board of the car, became acquainted through sign language. By some peculiar instinct he became aware of Dr. Lehmer's interest in numbers. In no time at all he taught him to count in Navajo. The ice was broken. The singing began. Dr. Lehmer succeeded in recording several primitive songs.

After the departure of my guests, painting ceased. I busied myself putting the camp into shape for the arrival of my husband and son. I wanted everything, myself included, to be in fine condition. One morning I awoke feeling quite ill. I asked Mr. Black Mountain to take a note to O'Farrell's Trading Post, 15 miles away. I expected him to go immediately. As the hours passed I became more feverish waiting for aid. At four o'clock I discovered that he had not left. First, he had walked miles over the desert

looking for his horse, then returned to relax in the hogan while his wife killed a sheep and roasted ribs for him. The sun was fast approaching *Estsanatlehi's* hearth before Mr. O'Farrell arrived with various remedies, oranges and grapefruit. No sooner had he cheered me with his presence than a little Navajo boy came running to camp, calling: "*Jedi, jedi.*" This was the name for automobile. Around the cliffs of my recessed apartment came the Buick from home, with Sidney and Austin bewildered by sand, rocks and the sight of me on my cot.

We remained two weeks in the canyon, relaxing after months of strenuous activities for all of us. Austin entertained Mr. Black Mountain by soldering wire handles on discarded tin cans, making deluxe drinking cups which our host set in a row on the sand for the edification of his family. The mores of the Blue Canyon dwellers had taken a sudden flight into civilization. Mr. Black Mountain craved more and more cups with handles. Austin was obliged to call a halt in the manufacture as he was using tinner's soft solder taken on the trip for mending gasoline leaks on the Buick. He watched Mr. Black Mountain polish silver buttons he had made by pounding dimes into conical molds. Austin saw a chance for more fun. He produced a can of Bennet's Brilliantshine and helped in the polishing.

"*Yahtay, yahtay!*" exclaimed the Navajo, gazing in admiration at the shining buttons all ready for his new velveteen jacket. Everything was *yahtay* for us there in Blue Canyon. We took short side-trips, going once to Oraibi via Hotevilla where we were fortunate enough to witness a Hopi ceremony. Old and young were taking part. The women, busy with their piki making, mixed their cornmeal with juniper ashes and water, spread the batter on hot rocks to cook and skillfully rolled the blue-tinged paper-thin bread to pile in heaps for all of the villagers to feed upon. When the dance began a group of white-bearded clowns was much in evidence. Undoubtedly they were counterparts of the ancient "Delight Makers" of whom Bandelier wrote so graphically. Their antics pleased the Hopi onlookers sitting on the village roofs, nearly every woman provided with an up-to-date umbrella.—END OF PART IV—  
Next installment: "Tony the Pony"

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By W. Thetford LeViness  
P.O. Box 155, Santa Fe

**S**ANTA FE, oldest capital in the United States, is celebrating its 350th anniversary this year. While the founding of the city in 1610 is to be noted at Rodeo de Santa Fe in July and at Fiestas de Santa Fe in September, the main events take place for 10 days only—from Friday, June 17 to Sunday, June 26, inclusive.

Indian dances, Spanish singing and dancing, Anglos in frontier-style beards and bonnets form the setting for this tricultural observance. There will be special days and fireworks. All but on the last night a huge "spectacular" will condense the three and a half centuries of Santa Fe history into two hours of after-dark outdoor staging.

Each day there will be art exhibits in the plaza and in several museums and galleries, "then-and-now" historical displays in windows of retail stores, and "open house" at



DESIGN OF FIRST 1 1/4c STAMP IN U.S. HISTORY

headquarters of several fraternal and patriotic organizations and libraries. On June 17 Gov. John Burroughs will officially open the observance by crowning the Celebration Queen.

Of more nation-wide interest, however, is the issuance at Santa Fe on June 17 of the first 1 1/4c stamp in United States postal history. This is not a commemorative stamp—it is a regular issue for bulk mailing by non-profit organizations under the new rate of 1 1/4c an ounce effective July 1. Its design, executed by Santa Fe artist-photographer Tyler Dingee, includes a picture of Santa Fe's most familiar facade and the inscription, "Palace of the Governors, Santa Fe, New Mexico"—the first time the name of a specific city has appeared on a United States postage stamp of regular issue. Four of the new stamps, costing 5c, are required on first-day covers to bear the Santa Fe postmark. The stamp will go on sale throughout the country June 18.

The Palace of the Governors dates from 1610, the year the city was founded. It has been the residence of Spanish-colonial, Mexican, and Territorial governors and was captured by Indians in the Pueblo Rebellion

and by Confederates in the Civil War. Now housing archeological and historical collections of the Museum of New Mexico, it stands unchallenged as the nation's oldest public building. Many of the centennial events are scheduled for the plaza in front of it.

Mission San Miguel is the only other building in Santa Fe that is as old. It is believed to have been erected in 1605, before the city was laid out, but has been rebuilt several times and little of the original still stands. Both the palace and the church will be focal points of the "spectacular." Replicas will be built on the great stage, scenes to be divided by means of lighting. Political events will occur at the palace, religious ones at the church. Also, there's to be a replica of a multi-storied Indian pueblo.

The "spectacular" divides Santa Fe's history into four periods — Indian (before 1610), Spanish-colonial (1610-1821, with the 1680-1692 years of Indian occupation dramatically noted), Mexican (1821-1846), and American (since 1846). Early scenes deal with the city's founding and the conversion of the Indians to Christianity. The Pueblo Rebellion, the reconquest by De Vargas, Mexican independence from Spain, and Kearny's conquest of New Mexico for the United States are big-production acts, while among other events to be noted are President Lincoln giving canes to the pueblo governors, Territorial Governor Lew Wallace writing the book *Ben Hur* in a room of the palace, New Mexico statehood (1912), and Santa Fe's participation in two world wars. The story ends with a boom—the explosion of the world's first atomic bomb, in the desert near by.

Santa Fe is on U.S. 64-84-85-285 and State Route 10. It has direct bus and plane connections, and the Santa Fe railroad runs a bus from its nearest station, Lamy. (One of the nation's greatest rail trunks is named for the city founded 10 years before the pilgrims landed on Plymouth Rock, but its only rail service is a freight spur from Lamy!)

Other June events include Indian dances at Sandia on the 13th and San Juan on the 24th. Sandia is 14 miles north of Albuquerque on U.S. 85, and San Juan is between Santa Fe and Taos (U.S. 64-285). San Juan, incidentally, is the site of New Mexico's first capital, established in 1598. On the 4th there will be a community celebration at Santa Rosa; on the 5th, the annual tour to the grave of Eugene Manlove Rhodes from Alamogordo; the La Loma Fiesta of St. Anthony takes place at Sandia and Taos pueblos on the 12th and 13th; on the 17-19, at Santa Rosa, the state high school Championship Rodeo; on the 25th, from Silver City, a jeep caravan to Gila Cliff Dwelling; the Gallup Rodeo on the 25th and 26th.—END

**UTAH CALENDAR:** June 9-11, Strawberry Days at Pleasant Grove, with nightly rodeo and carnival; June 19, Annual Canyon Country River Marathon from the community of Green River to Moab, one of the West's major boating events; June 23-24, Vernal Amateur Rodeo; June 23-25, Lehi Roundup Rodeo.

**NEVADA CALENDAR:** June 3-5, Silver State Stampede, Elko; June 11, Carson Valley Days, Minden; June 17-19, Reno Rodeo (the first time in over a quarter of a century that this event has not taken place on Fourth of July); June 25-26, Great Basin National Park Association's annual meeting in Ely.

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PINE VALLEY Trading Post deals in authentic Indian goods, rugs and jewelry, also gift items, imports. On Highway 80, 43 miles east of San Diego. Mailing address, Box 208, Pine Valley, California.

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AMERICAN INDIAN color slides. Superb museum specimens covering archeology and ethnology of Western Hemisphere. Excellent for teachers, artists, collectors. Free list. American Indian Museum, Broadway and 155th, N.Y. 32.

INDIAN PHONOGRAPH records, authentic songs and dances, all speeds. Write for latest list: Canyon Records, 834 No. 7th Avenue, Phoenix, 1, Arizona.

AUTHENTIC INDIAN jewelry, Navajo rugs, Chimayo blankets, squaw boots. Collector's items. Closed Tuesdays. Pow-Wow Indian Trading Post, 19967 Ventura Blvd., East Woodland Hills, Calif. Open Sundays.

ARROWHEADS, NORTHWEST obsidian and Southwest chalcedony dating to 7000 B.C. Three arrowheads made by ancient man and catalog —\$1. Worcester's, 1229 B. University Avenue, Berkeley 2, California.

SELLING 20,000 Indian relics. 100 nice ancient arrowheads \$25. Indian skull \$25. List free. Lear's, Glenwood, Arkansas.

INDIAN TIPI with poles, very old. Navajo blankets, ceremonial items, baskets, Jivaro head. Bernard, Box 972, Santa Cruz, Calif.

## ● MINING

BERYLLIUM ASSAY with beryllometer. Presence or absence of beryllium, \$1. Accurate analysis of beryllium oxide content, \$8. 24-hour service. Boulder Assay Office, 250 Pearl Street, Boulder, Colorado.

WESTERN MINING News, monthly, for miners, prospectors, claim owners, \$2 per year. Sample copy 25c. Box 787, Sonora, Calif.

FOR SALE: Eight claims, large deposit low-grade tungsten adjacent to north end of Death Valley. Beautiful wooded country. Potentially fine resort or summer home. Price \$5000. Write: Russell Roper, c/o Sierra Talc, Dyer, Nevada.

WANT PARTNER for prospecting California gold placer. Have jeep, plus know-how experience and equipment; also instrument for underground detection. Need small suction dredge and drywasher. Shaffer, 809 Wildrose, Monrovia, Calif.

**GOLD & SILVER assays.** Special high precision test. Better accuracy guaranteed. \$4. Reed Engineering, 620-R South Inglewood Avenue, Inglewood 1, California.

**AIR FLOAT concentrator** for sale, 98 percent efficient for gold or minerals, \$125. 404 West Chevy Chase Drive, Glendale 4, California, Edwin L. Russell.

**MY SIMPLE** easy to follow instructions on obtaining shale-oil from oil-bearing shale. Interesting hobby. My instructions with 1/2 pound ground Chattanooga shale, \$10. Build your own equipment. My equipment including burner cost less than \$3. Medlen, P.O. Box 102, Plainview, Nebraska.

**\$1 FOR gold areas,** 25 California counties. Geology, elevations. Pans \$3, \$2.50. Poke \$1. Fred Mark, Box 801, Ojai, California.

**FIND BORON,** lithium, tungsten, strontium and other valuable minerals with the new always ready fluorescent mineral detector. Detector operates in daylight, uses no batteries, fits in shirt pocket and eliminates dark box. Price only \$12.50. Free brochure. Essington Products & Engineering, Box 4174, Coronado Station, Santa Fe, New Mexico.

**THE GOLD Report** says, "It must go higher. So, convert your money to gold, now 1934 price. Store out of country. Use 97 percent loan value to double claim." Safe, legal profit plans, \$3 to Hayes, Box 3455D, Chicago 54, Ill.

**NEW! METALS & Minerals Buyers Guide** for 1960. Market values—who buys what and where. Price only \$2.50 postpaid. Comprehensive Chemical Co., Box 41D, Rancho Cordova, Cal.

**FOR SALE:** Detetron Nuclimeter, cost over \$600. Will sell for \$200 or will trade for good metal locator. Roy Eykamp, Lake Preston, South Dakota.

## ● LODGES, MOTELS

**ROCK HOUND headquarters:** Moqui Motel, Escalante, Utah — on Highway U. 54, phone MAket 4-4210, Dyna and Mohr Christensen. Pack and Jeep Trips by appointment.

**EXCLUSIVE! BOYS and girls ranch** for children, ages 9-14, located in colorful Rocky Mountains west of Durango, Colorado; specializing in tennis and horsemanship. Contact Teed and Jodelle Feast, Box 136, La Quinta, California, for more details.

**MELODY LANE Apartment Motel,** 6259 Adobe Road, P.O. Box 66, Twentynine Palms, California. All electric, air-cooled, trees and patio, opposite post office, near super-market. Day, week or monthly rates.

## ● PHOTO SUPPLIES

**WILDLIFE OF Alaska,** color, 16 or 18 mm. movies, 35 mm. slides, walrus, sheep, caribou, moose, goat, bear, glaciers, Lake George Breakup, wildflowers, small animals, birds, sport fishing & Eskimo dances. Elmer & Lupe King, Alaska Film, Box 5621, Mt. View, Alaska.

**BLACK AND white photo finishing:** 8 exposure roll—60c, 12 exposure roll—85c, 16 exposure roll—\$1.10. Color processing: 20 exposure kodachrome \$1.25, 36 exposure kodachrome \$2.15, 8 mm. kodachrome roll \$1.25. 8 hour service. Rancho Photo-D, Ontario, California.

**NATURAL HISTORY color slides** 35 mm.: snakes, lizards, spiders, insects, birds, and ocean life. For free list write to Bucky and Avis Reeves, Box 3164 Hillcrest Station, San Diego 3, Calif.

**FOR SALE or trade:** Argus C4, Revere Stereo camera, also 30 acres on lake with two-room cabin in Ontario, Canada. Worth \$2500. Will sell or trade. Rossbach, 722 North Waiola, La Grange, Illinois.

**COLOR SLIDES.** Re-live your vacation trips. 3000 travel Kodachromes, parks, U.S., foreign, nature, etc. Free list (sample 30c). Send today. Kelly D. Choda, Box 15, Palmer Lake, Colo.

**POINT OUT** interesting spots at your colored slide shows with a Sardiscope Projection Pointer. Easy to operate. Price \$4.95 postpaid. F. P. Moore, Box 582, Benjamin Franklin Station, Washington 4, D.C.

## ● MAPS

**SECTIONIZED COUNTY maps** — San Bernardino \$3; Riverside \$1; Imperial, small \$1, large \$2; San Diego \$1.25; Inyo \$2.50; Kern \$1.25; other California counties \$1.25 each. Nevada counties \$1 each. Include 4 percent sales tax. Topographic maps of all mapped western areas. Westwide Maps Co., 114 West Third Street, Los Angeles 13, California.

**GHOST TOWN map:** big 3x2 feet. California, Arizona and Nevada, with roads marked. Plus Treasure catalogue 100 items. \$1. Foul Anchor Archives, DM, Rye, New York.

**OFFICIAL PONY Express Maps** for sale showing location of all Pony Express Stations from St. Joseph to Sacramento with distances between stations. The most complete and comprehensive Pony Express map ever published. Size 14 x 48"—\$2. Same reduced to 7 x 22"—50c each postpaid. Write for prices if 100 or more copies are desired. National Pony Express Centennial Association, 2998 Connor St., Salt Lake City 9, Utah, or L. C. Bishop, 2112 Maxwell Ave., Cheyenne, Wyoming, or Paul Henderson, Bridgeport, Nebraska.

## ● REAL ESTATE

**CHOICE 626 acres** on Dillon Road, few miles from Desert Hot Springs, California; \$275 per acre. Write Ronald L. Johnson, Thermal, Cal.

**80 ACRES** near Lockhart, level, \$125 acre, 25% down. 20 acres Highway 395, level, north of Adelanto, \$150 acre, 10% down. 2 1/2 acres west of Adelanto, level, \$1495, 10% down. 2 1/2 acres Lancaster on paved highway, shallow water, level, \$2495, 10% down. Dr. Dodge, 1804 Lincoln Blvd., Venice, Calif.

**SALE OR trade:** Six unit apartment house, Hood River valley for building in desert town, prefer Arizona. T. Reineohl, 1114 12th St., Hood River, Oregon.

**FOR INFORMATION** on desert acreage and parcels for sale in or near Twentynine Palms, please write Silas S. Stanley, Realtor, 73644 Twentynine Palms Highway, Twentynine Palms, California.

**SPACIOUS FURNISHED** well-constructed home, Morongo Valley; 2 1/2 acres, beam ceiling living room, unique stone fireplace, 2 bedrooms, screened porches, patios, garage, trees, gorgeous view, forced air heat, all utilities, \$16,000. Owner: SYcamore 9-3924, San Marino, California.

**\$50 DOWN, \$30 month,** buys 40 acres level land, section 16, 4N, 19E, between Turtle and Old Woman Mountains, shallow water. Owner: Henion, 2086 East Colorado Blvd., Pasadena, California. SY 5-4329 or SY 6-2931.

**JOHANNESBURG, CALIFORNIA:** health seekers, rockhounds, five-room home, extra lot, one block to shopping, price \$4800. Cash or terms. Write: Henry Bykowski, 3347 Encinal, La Crescenta, California. Phone CHurchill 9-6414.

**CANTIL, CALIFORNIA** near Red Rock Canyon, 1580 sq. ft. de luxe desert home, 2 1/2 acres, oversize garage, fenced patio, G.E. Kit Center, air conditioning, marble bathroom, fireplace, sleeps eight. Complete privacy yet close conveniences, dynamic area. Sacrifice sale \$30,000. For information: D. Wolcott, 2624 Laguna, San Francisco 23.

**ACRE COLORADO River,** near dam. River and highway frontage, trailer, awning, electricity, pump, toilet, cooler, refrigerator, cleared. \$4500. Hoy Parker, 501 Richman Place, Fullerton, California.

**MAN WISHES** to buy two to ten acres foothill or desert land in southern California or Arizona, preferably with cabin, for home site after retirement. Otto Kruger, Box 352, Broderick, California.

**CHOICE INCOME property** on main road to Edwards Air Force Base, few miles from Lancaster. Reasonable terms. V. E. Penfield, 7058 East Avenue 1, Lancaster, California.

**THE BEST of Pinyon Crest;** choice high desert view property near Palm Desert, 2 1/2 acres, \$8000. C. Simonson, 515 First St., Coronado, California.

**FIVE ACRES:** Calaveras County, large block house 2000 square feet, 130 feet porches, patios, green house, near gem and mineral club, Altaville. \$21,500. Archie Mecham, Broker; Box 308, Altaville, California.

**WEEK-END CABIN** on five acres, near 29 Palms. NE 1/4 of sec. 27, township 2N, range 8 — \$2500.00. One of 3 purchase plans to suit. Box 997, Palm Desert, California.

**COLORADO RIVER minnow and frog farm.** Modern home and cabin. \$16,000 full price. 20 miles north of Blythe. Yankee, Parker Route, Box 18, Highway 95, Blythe, California.

**FIVE MINUTES** to downtown Redlands, yet private and secluded—ten acres, low as \$2990. \$100 down, balance E.Z. Write today. Pon & Co., Box 546D, Azusa, California.

## ● PLANTS, SEEDS

**WILDFLOWERS SEEDS:** New catalog offers over 600 different kinds of wildflower and wild tree seeds. Catalog 50c. Clyde Robin, Carmel Valley, California.

**CACTUS AND Succulents:** Eight of these exotic plants from the deserts of the world. \$2 postpaid. G. Robert Meyers, Box 521, Vista, Cal.

**ROSSO'S CACTUS Nursery,** 25399 Highway 99, Loma Linda, California, between Colton and Redlands. See the largest variety in the world.

**OLD FASHIONED** large gourd seeds, mixed types, certified, 50c. Ornamental; useful for birdhouses, centerpieces. Christmas decorations. conversation pieces, etc. Certi-Seeds, 591 1/2 Shoshone Avenue, Encino, California.

**GIVE A gift** of a Redwood burl. Fernlike plant cut from Giant Redwood. Sprouts all year. \$1 to \$3. Waterproof Redwood bowls to hold cost \$2. Beautify your room. Eternal tree House, South Fork, California.

**GROW GIANT Saguaro Cactus** in your home in 7 days, planter soil, seeds, \$1.25, guaranteed, prepaid. 1914 East 18th Street, Tucson, Ariz.

**CHIA AS** featured in article, "Hot Cakes and Chia" for sale—limited quantity, \$7.50 lb. Inquiries to Bruce Gregory, Box 147, French Camp, California.



# TRADING POST CLASSIFIEDS

## ● WESTERN MERCHANDISE

**GHOST TOWN** items: Sun-colored glass, amethyst to royal purple; ghost railroads materials, tickets; limited odd items from camps of the '60s. Write your interest—Box 64-D, Smith, Nevada.

**FREE "DO-it-yourself"** Leathercraft catalog. Tandy Leather Company, Box 791—G35, Fort Worth, Texas.

**GOLD SCALES** and other antique items from early California gold period. Excellent condition. Extra fancy quartz crystals with colorful phantoms and inclusions, for advanced collectors. Call or write for appointment. Paradise Gems, 6676 Paragalia Way, Paradise, California.

**ATTENTION BOTTLE** Collectors: imprint bottles of the Old West; purple bottles sun colored, 50c and up, mineral specimens, gem stones, open Saturday and Sunday. Purington's Desert Shop, Randsburg, California.

## ● MISCELLANEOUS

**RARE CARSON** City Mint dollars, 1880, 1881, 1885, uncirculated, \$10 each. 1882, 1883, 1884, 1890, 1891, \$7.50 each. 100-page coin catalog 50c. Shultz, Box 746D, Salt Lake City 10, Utah.

**VIOLIN PLAYERS:** you can buy nice handmade violins at very low prices. Made in the desert. Write George Blatt, Box 213, Johannesburg, California.

**BABY SHOES** bronzed to last forever. Each shoe is carefully electroplated with pure copper by skilled craftsmen. Each order is guaranteed and backed by 30 years of know-how. \$7.95 for one pair, unmounted. Write for folder. Alice Ames, 5915 Shoshone Avenue, Encino, California.

**FANTASTIC INTRODUCTORY** sale: Finest precision quality 8x30 center focus prism binoculars with hard coated lenses, fine leather case and shoulder straps. Special offer, below usual dealer's cost. Regularly \$43.50. Limited time, only \$24.95—30 day money back guarantee. We pay the 10% F.E.T. and shipping. Rush check or money order today. Lorbro Products Company, 406D Walnut Street, Alexandria, Ind.

**SENIOR CITIZENS** discount drug service—due to popular demand—is extending its service to include medications and vitamins plus prescriptions. Our bulk purchases save you money. Orders sent prepaid daily. SC Dept., Nevada RX Drug; Boulder City, Nevada.

**30 BEAUTIFUL**, foreign, real butterflies, one large, gorgeous iridescent blue Morpho (S.A.), one pair golden bird winged butterflies. Introductory offer—all for \$3. Free list. Postpaid. Ben Karp, 3148 Foothill Blvd., La Crescenta, Calif.

**SCIENTIFIC INTRODUCTIONS** by College Professor, Ph.D., in person or by correspondence. Famous Wallace matchmaking system; personality analysis and electronic selector. Write Dr. Karl Wallace Foundation, 54042-G Terminal Annex, Los Angeles 54, California.

**BOOKKEEPING SIMPLIFIED:** Conforms to all federal and state tax law requirements. Complete book only \$4.95. Mott Distributors, P.O. Box 602, Lovelock, Nevada.

**SIMULATED ENGRAVED** business cards \$3.95 and \$4.95 per thousand. Write for samples. Tumble polished baroques \$2.50 per pound postpaid. Doney's Printing & Rock Shop, Box 246, Lucerne, Lake County, California.

**WE HOPE** the two men who, in April, 1958, stole from the Rhyolite Cemetery the Kirsch tombstone—beautifully polished gray granite scroll—have been very happy. It was there fifty years. "Those Who Cared."

**A BUSHEL** of mail for \$1. Receive hundreds offers, samples, catalogs, magazines, opportunities. Your name on listings one year. Los Angeles Mail Service, P.O. Box 5879, Los Angeles 55, California.

**PLASTIC EMBEDDING** for fun and profit, no oven. Make beautiful jewelry, decorative panels, science specimens castings. Catalog 25c, Natcol Plastics, Box 444, Yucaipa, Calif.

**BAJA. FAMILY** planning year's sojourn Mulege needs information, practical advice from former residents or area, or Baja-ficianados recently there. Thomson, 1211 21st North, Seattle 2, Washington.

**PAPER WEIGHTS**, book ends, jewelry, etc. made from cores taken from over a mile beneath the earth's surface. Thin sections. Inquire: Roswell Petrographic Laboratory, 112 South Washington, Roswell, New Mexico.

## QUIZ ANSWERS

Questions are on page 32

1. True. 2. True.
3. False. The blossoms are creamy white.
4. False. Intermarriage is quite common.
5. False. The Hassayampa is a tributary of the Gila.
6. True. 7. True. 8. True. 9. True.
10. False. They are mostly Navajos.
11. False. The California Parks Division is seeking to protect portions of the historic road.
12. False.
13. False. The Funeral Mountains border Death Valley, Calif.
14. False. Cibola's wealth was a myth.
15. True.
16. False. Last August 16,000 persons visited the monument.
17. True.
18. False. Rainbow Natural Bridge is the work of natural forces.
19. False. Randsburg has a hotel and several active businesses. About 200 persons live in the area.
20. False. The hotter it gets, the more liquid your system requires.

## PHOTO and ART credits

(Unless otherwise specified below or in text, photographs and art work are by authors of features in which they appear.)

**Page 9:** Map by Norton Allen. **15:** Spence Air Photos. **19-21:** Haddon-Branham, Santa Fe. **22-25:** Charles Herbert, Tucson. **28-30:** Western Ways Features, Tucson. **31:** Dick Whittington. **35:** Sperry-Tyler Dingee. **41:** Phoenix Chamber of Commerce; Map by Norton Allen.

## Hard Rock Shorty of Death Valley



"Yes 'n no," said Hard Rock Shorty in answer to the tourist's question of whether there was any danger that his new automobile would pick up rust if left outdoors for one night. Shorty cast a critical eye at the car standing in front of the Inferno Store and then turned to the owner who was sitting next to him on the shaded porch.

"Usually there ain't no water in th' air day or night. But it weren't that way when me 'n Pigsaw Bill built our shack up Eight Ball Crick.

"We had to scrape five days to get th' rock off'n the top of th' ol' spring up there so's we could have water fer our new camp. Next day after we opened 'er up, the sun turned that whole spring to steam. Th' canyon waz as foggy as one o' them Turkish baths.

"When th' mist settled there waz no water in th' spring and rust on all th' mining 'quipment, 'cludin' our new cook stove 'n th' buckles on Bill's suspenders

thet he won in a punch board. All the greasewood greened out, too.

"What a mess! Bill 'n me waz miserable although my sinuses were feelin' pretty good 'n the dishes waz all done like I never saw them before.

"Hold on 'fore'n you start cleanin' up," Bill sez to me, 'I've gotta get somethin'."

"He hightails it outa there and I spends the rest of the day lookin' at all thet rust and wonderin' jest how we're gonna get it off.

"Next night here comes Bill leadin' the five mountain sheep thet live up at the ol' iron mine four canyons over. 'Come on,' he yells to me, 'get the shears—these critters are jest right—they ate jest enough of thet forage around the ole iron mine!'

"Well, sir, we sheared them sheep an' came up with four bushels of top grade steel wool. We had thet rust off inside an hour."

# BOOKS of the SOUTHWEST

## SOME NEW PAPERBACKS BRIEFLY NOTED:

The following paperbacks are available through Desert Magazine Book Store. See footnote on this page for purchase details.

*Cactus Personified* by Ladislaus Cutak. This booklet is written in "down-to-earth" language by one of America's most noted cactus experts. Mr. Cutak is connected with the Missouri Botanical Gardens in St. Louis. "Realizing that common names hold appeal," he writes, "it is the aim of this book to bring to your attention most of the fascinating novelties that occur in the cactus family and thus popularize these subjects that merit a place in any home." Over 100 cactus friends are "personified" with text and drawings. \$2.

*Let's Go Camping—Let's Go Trailing* by Albert B. Evans. This new campsite directory tells you what public campgrounds have trailer accommodations, what the other facilities of such campgrounds are that would interest the trailerist, and how to locate these campgrounds as you travel down the highway. It lists all U.S. state, national park and national forest campgrounds. Canada is also given coverage. 181 pages. \$2.50.

*Plants of Big Bend National Park* by W. B. McDougall and Omer E. Sperry. An excellent botanical reference, with illustrations and keys for identification, on the interesting Big Bend area of Texas. This booklet is a Department of Interior release.

printed on quality stock. Glossary and index; 209 pages; \$1.

*The Earps of Tombstone*, edited by Douglas D. Martin. This booklet contains excerpts of the stories on the hell-raising Earps that appeared in the *Tombstone Epitaph*. Spans the years 1880 to 1882. 65 page. \$1.

*The Mojave of the Colorado* by the Pages of History publishing house staff. This 24-page booklet contains some good historical drawings made by the first white men among the interesting Mojave Indians of the lower Rio Colorado. 50c.

*Cabins and Vacation Houses*. Plans, photographs, construction ideas of all types of cabins and vacation homes. This Sunset Book contains 252 plans and drawings, illustrated with 250 photos. Here's the whole cabin story—planning construction; cabins for mountains, lakes, snow; beach cabins; desert cabins; ideas for built-ins, interiors, improving the site, financing. 128 pages; \$1.95.

## A DESERVING BOOK ON THE PONY EXPRESS

Roy S. Bloss, author of *Pony Express—the Great Gamble*, has done an excellent job of wrapping the historic venture in proper perspective. Whereas most books on the Pony Express project dwell heavily on the deeds of the daring riders and brave station masters, Bloss goes primarily into the political and financial backgrounds that fostered the "Great Gamble."

There are more than three dozen excellent illustrations throughout the 160 pages. The book, a hardback edition, was published by Howell-North Company.

After reading this work, one wonders not only at the heroics of the men who rode and the defenseless men who tended the stations, but at the stubborn efforts made by financial backers of the program

to prove that the pony express could be made to pay a profit. It seems that the only sound money to come from the venture was that accruing to latter-day authors and movie makers!

*Pony Express—the Great Gamble* can be purchased by mail from the Desert Magazine Book Store for \$4.50. See details below.

## "CALIFORNIA'S MASTER TRIBE"—THE CAHUILLA

Conservationist and Indian authority Harry C. James (see page 15 in this issue) answers these questions in his new book, *The Cahuilla Indians*: "Who are these so-called Cahuilla Indians? What is their history? What of their culture?—their religion? What was and is their way of life? What does the future hold for them?"

These people of Southern California's Coachella Valley and surrounding mountains hold a small place in the American Indians' historic scheme of things. They are not as great (in numbers) a tribe as the Navajo; their warriors did not cut as heroic a figure as the Sioux and Comanche; their relations with the whites were not as vexing (nor as publicized) as the "Apache Problem" of the 1880s.

But, they made their way, often ingeniously, in as inhospitable a region as there is in the Southwest. James calls the Cahuilla "California's master tribe." Their crafts were creative; their folklore had a high poetic quality (see James's "Cahuilla Cat's Cradle" in the August '59 *Desert*). The complexities of modern times have not caused the Cahuilla to stumble. Less than a century ago a band of Cahuillas ate seeds gathered from desert plants growing in the Palm Springs area; today the grandchildren of these Indians hire corporation lawyers and tax experts to help them work out the problems connected with development of their valuable holdings in the heart of that resort city.

There are 185 pages in the James book; many halftone photographs plus illustrations by Don Perceval; bibliography; \$7.50. (See details for mail-order purchasing in footnote.)

Books reviewed on this page can be purchased by mail from Desert Magazine Book Store, Palm Desert, California. Please add 15c for postage and handling per book. California residents also add 4% sales tax. Write for free book catalog.

## Books for VACATION

## Planning/Enjoyment

• **National Parks and National Monuments of Utah.** A Zion-Bryce Natural History Association publication. 56 pages, many color illustrations, excellent map, paper cover.....\$1

• **Exploring Our National Parks and Monuments,** by Devereux Butcher. All-inclusive report on our scenic wonders. Maps on all areas. 288 pages, 16 in color.....\$5

• **Scenic Guide to Nevada,** by Weldon F. Heald, well-known Western travel writer. There's much more to the sagebrush state than Las Vegas! 80 pages, maps, illustrations, paper cover....\$1.50

• **New Guide to Mexico,** by Frances Toor. A trip south of the border can be a once-in-a-lifetime travel adventure—another world, right next door. Over 80 illustrations, maps, 277 pages.....\$2.95

• **National Parks in California,** by Dorr Yeager. California has everything — beaches, valleys, mountains, deserts and truly wonderful National Parks. 101 pages, maps, illustrations.....\$1.75

• **Discovery Trips in Arizona.** A Sunset Discovery Book all about exciting Arizona, vacation dreamland of thousands of folks who want blue skies, beautiful scenery. 101 pages, illustrations.....\$1.75

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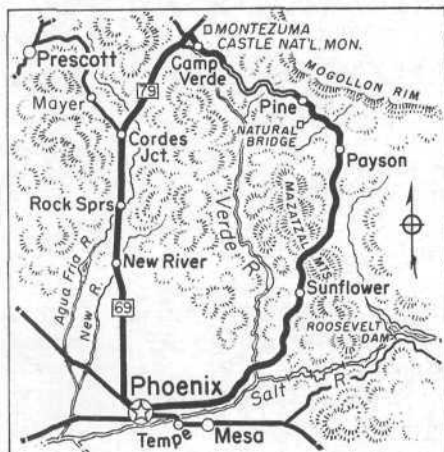
- ☐ National Parks, Monuments of Utah. \$1\*
- ☐ Exploring National Parks, Monuments. \$5\*
- ☐ Scenic Guide to Nevada. \$1.50\*
- ☐ New Guide to Mexico. \$2.95\*
- ☐ National Parks in California. \$1.75\*
- ☐ Discovery Trips in Arizona. \$1.75\*





By Thomas B. Lesure  
6120 N. 18th St., Phoenix

THE PINES around Payson provide a perfect antidote for central Arizona residents and vacationists wanting to escape the summer desert heat. Since the opening of the all-paved Beeline Highway a couple of years ago, Payson has become practically a backyard suburb of Phoenix—about two hours driving time each way. Many Phoenixians have taken up summer homes in the Payson area. More, however, drive up for a day or a weekend—and a few of them toss in a real thriller by loop-



ing around through Camp Verde before returning to Phoenix.

This off-beat drive offers several interesting side-trips "under the Tonto Rim" where the scenery varies from placid to dramatic. What's more, it's a leisurely road—with only a handful of cars likely to be met on the 55-mile journey between Payson and Camp Verde.

Begin the trip in Phoenix; if you plan only a one-day outing, get an early start to allow more time for en-route enjoyment. East of Phoenix, where McDowell Road Y-forks before reaching Mesa, the Beeline Highway commences. Rolling past the McDowell Indian Reservation and a spur-road leading to Saguaro Lake, it quickly serves up spectacular scenery that continues right to Payson. Along the way you'll look out on far-flung vistas of the Superstition Mountains and Weavers Needle, cross the towering Mazatzal Range, and glimpse the Tonto Basin.

Despite the invasion of city folks, Payson remains an easy-going lumber- and cow-town some 4600-feet-high among the pines of Tonto National Forest. Appropriately, the big event of the year is the annual Payson Rodeo each August.

From Payson, the route goes northwest—past views of the sharp escarpment of the high Mogollon Rim—to Pine. A little more than half-way along, a side-road left—well marked—takes you to Tonto Natural Bridge, a 180-foot high, 150-foot wide travertine arch atop which rests a five-acre

farm. Pine Creek flows along the bottom, and old Indian caves are tucked among the nearby canyon walls.

Back of the old Mormon community of Pine, with its apples and peach orchards, rises 8182-foot Baker Butte on the Rim, jutting several thousand feet above town. The road skirts the base of the Rim, ambles into the hamlet of Strawberry and—losing its pavement—scoots left past an old schoolhouse made of hand-hewn square logs and through small farms and pine-rimmed meadowlands.

About a dozen miles along the roller-coaster begins. Dipping off a high plateau, the road curves down into a cottonwood-shaded valley where the Irving power plant is located on Fossil Creek. Here's a place for another side-journey—up the canyon to the secluded glen where the creek gushes out of the mountainside. It's a jeep or hiking trip, though, with such quiet rewards as roaming deer and elk, flitting orioles, wild canaries and other birds, and a verdant restfulness.

Not far from the power house, another road leaves the "main route" for Verde Hot Springs whose sulphur-impregnated, 104° waters were favored by Indians for their curative powers. Modern health-seekers also claim the waters give relief from sinusitis, rheumatism and arthritis.

The cork-screwing road now follows the contours of the mountains—and affords a heap of gulping vistas. A few miles before swinging into Camp Verde—near where the pavement starts again—the road crosses Clear Creek, excellent for trout fishing. There's an attractive, shaded picnic spot here, and if you've brought the makings, it's a fine spot to relax after the sometimes hair-raising drive.

Camp Verde—originally Fort Lincoln—remembers frontier days with its museum housed in some of the original adobe fort buildings. Nearby lies Montezuma Castle National Monument having cameo-like cliff dwelling ruins which you might want to visit. Otherwise, the route is State 79 and 69—the Black Canyon Highway—back to Phoenix where you can wax enthusiastic about one of the most appealing loop trips in the Southwest.

May 30 to June 19, the Museum of Northern Arizona in Flagstaff will present the "Glen Canyon Project" exhibition. June 17-19 are the dates for the Arizonac Club's Junior Rodeo in Globe. The fourth annual All Junior Rodeo takes place June 25-26 at Kingman. In this latter event, the kids (12 to 21 years of age) take over every facet of putting on a rodeo—from arena direction to watering the stock.—END

CALIFORNIA CALENDAR: June 2-5, 11th Annual Gold Rush Days at Mojave (a

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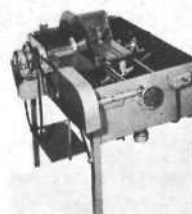
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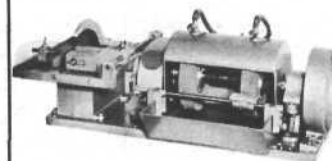
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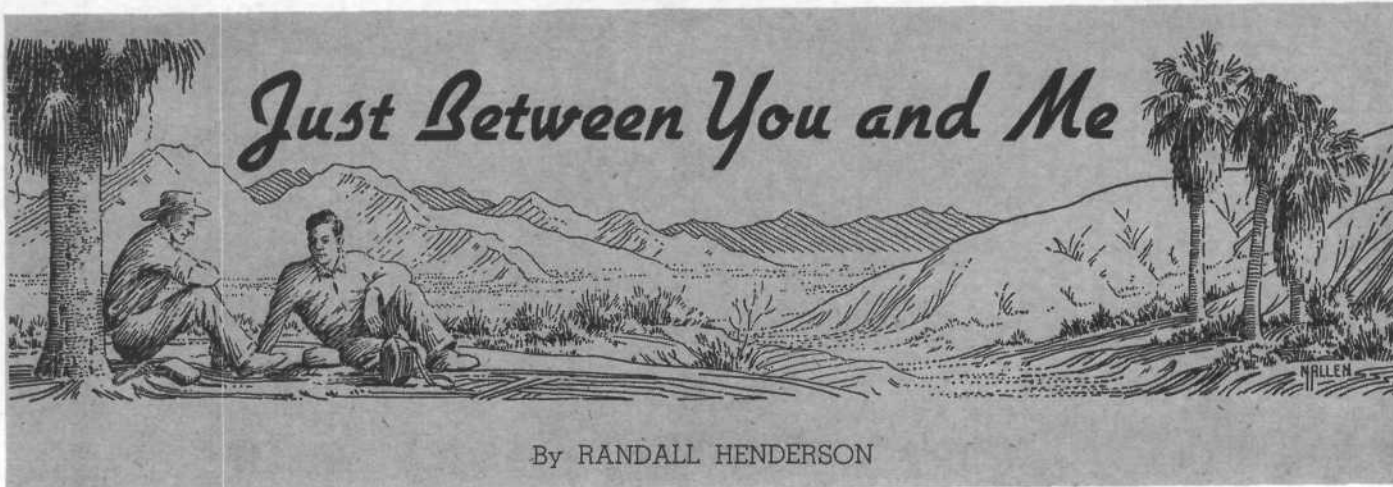
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By RANDALL HENDERSON

**R**UMORS HAVE BEEN current for some time that the U.S. Navy again has designs on large areas in the Saline and Panamint Valleys of California for firing range purposes. This area adjoins the Death Valley National Monument on the west. It is desert terrain—but a popular rendezvous for prospectors, scientists, rock collectors, campers and other outdoor recreationists.

To find out if there is any basis of truth in the rumors I wrote to Senator Clair Engle who has been very zealous in his efforts to protect the public domain from excessive encroachment by the armed forces. Engle secured the passage two years ago of a law making it necessary for the military to secure congressional approval if tracts of more than 5000 acres were to be closed to the public.

The Senator sent me copies of correspondence with the Navy department which confirmed the rumors. The Navy has been making surveys and has under consideration the acquiring of 185,000 acres to be added to the Naval Ordnance Test Station at China Lake for "instrument, impact and tracking" purposes. No final decision has yet been made by the Navy department.

Fortunately for those of us who have an interest in safeguarding the desert terrain against unnecessary closure, the Navy cannot acquire this range without an act of Congress. It is certain there will be a storm of protest against this acquisition if the Navy tries to carry out its program.

We folks who live on the desert cannot understand why the Navy, the Marines and the Air Force each must have its own private firing ranges in peacetime, while in time of war they would have to work together as a coordinated unit. We wonder why, if the Navy needs more space, it cannot carry out its testing in the great million-acre Las Vegas Bombing and Gunnery Range just over the line in Nevada. The Nevada range stands idle much of the time.

We have learned from past experience that when the armed forces take over a tract of public land for target purposes it is gone forever insofar as public use is concerned. Even if the world should unite in a program of disarmament—as eventually it will do—these bombing ranges will remain lost for useful purposes. We learned our lesson in the Anza-Borrego State Park.

During World War II the Navy asked for the "loan" of 23,000 acres in the Anza sector of the Park for aerial bombing practice. They wanted it only for the period of the emergency. As a matter of patriotic duty, the California Division of Beaches and Parks granted the request.

The land involved was in the Carrizo Creek area, straddling the old Butterfield stage route—a region rich not only in scenic and historical interest but also of scientific value because of the great marine fossil deposits there.

When the war ended, the Navy was ready to turn it back to the state park system. But Park division asked that it first be de-contaminated. After years of delay, the Navy finally last July advised that the duds had been removed. A few days later the park rangers went out to scout the area. One of them saw the tip of a shell protruding from the sand—and on examination it was found to be an unexploded missile.

Actually, it would require a whole army for many months to go over the rugged terrain foot by foot and remove all the hazards. And even then, a ranger excavating for fossil material might drive his pick into a live shell that had buried itself in the gravel. "We just cannot assume the responsibility for opening this area to the public," the Park superintendent commented.

And so this interesting parcel of Park terrain must remain closed to the public for many generations at least. And that is one of the reasons why we desert people are insisting that the armed forces be required to coordinate their testing and bombing on the 29 million acres—mostly in the West—which they already have acquired.

\* \* \*

This is being written in April, the month when one of the most constructive holidays on the American calendar is almost completely ignored in the United States. I refer to Arbor Day, first observed in Nebraska in 1872, and now recognized by all the states in the union—and passed unnoticed in most of them.

There are good reasons why Arbor Day should be revived and made the occasion for the planting of millions of trees in the United States. For the foliage of trees, as well as that of other plants, is Nature's most effective device for purifying the air we breathe. Every leaf and blade is a tiny factory wherein the sun's energy is converted into carbohydrates for human consumption as food, and for the exhalation of oxygen into the atmosphere.

We'll never be able to plant enough trees to compensate for the poison being pumped into the air by the exhausts of millions of automobiles. But perhaps some day a more enlightened generation of automobile manufacturers will turn their attention from fins and chrome and gadgets to the much more useful service of filtering the poison out of the gases which come from their cars. In the meantime we may all contribute to the health of present and future generations by planting more trees.



# HARPER'S WELL

By Walter Ford

ON A COLD December day in the year 1774 a weary band of travelers, led by Captain Juan Bautista de Anza, straggled into the little Indian village of San Sebastian near the junction of Carrizo and San Felipe washes. This was the first contingent of the three sections into which Captain Anza had divided his group before leaving Yuma on his second expedition to California. The division was made so that the waterholes along the way would have time to refill between the departure of one group and the arrival of another. Despite this precaution some members of the party and their animals suffered keenly from lack of water.

The second group, led by Sergeant Grivalva, arrived at San Sebastian the second day, recounting little more than the usual desert hardships, but the third contingent under Lieutenant Moraga did not arrive in camp until the fourth day, after battling their way through a fierce storm of wind, snow and rain. Moraga had suffered intensely, and later became totally deaf as a result of the exposure to which he had been subjected.

The hardships of the trail were quickly forgotten in the joy of the reunion, and that evening most of the party made merry with a noisy celebration. Apparently, the happiness of the occasion did not extend over the entire group. As Robert Glass Cleland reported in his *Pathfinders*, a woman member of the group sang a questionable song, her companion punished her, Anza reprimanded the man, and Father Font reproved Anza.

The plentiful supply of water which Anza found at San Sebastian established it as one of the important watering places of the Colorado Desert, a fact that many of the old-time prospectors who later crossed his trail would readily verify. This location became known as Harper's Well, from the name of a settler who established his home here.

In his *Some Watering Places in Southeastern California and Southwestern Nevada*, published in 1909, Walter C. Mendenhall stated that an attempt had been made to develop oil at Harper's Well a few years prior to the publishing of his report. No oil was found, but at a depth of 300 feet a flow of good water was obtained. Mendenhall said that the site of the well was plainly marked with a derrick, which could be seen for a long distance across the desert. The derrick has long since disappeared, but the darker green of a group of palms surrounding the well, and the background of the mesquite growing in this same area makes Harper's Well easily seen from a considerable distance.

The old road from Kane Springs to Julian passed directly by Harper's Well, and some of the homesteaders scattered along this route depended almost entirely upon the well for their water supply. One of these men is James Magill, who has lived near Highway 78 about two miles north of Ocotillo Wells, since 1927. Mrs. Magill



THE AUTHOR DRINKS FROM HARPER'S WELL

told me of how she used to drive to Harper's Well weekly to do her washing, a round-trip of approximately 40 miles, accompanied only by her little daughter. After drying her clothes on the shrubbery, the climb homeward would begin, many times through sandy stretches where it was necessary to inch forward slowly, filling the road ruts with greasewood as she moved along.

I recently revisited Harper's Well after an absence of 20 years. I parked my jeep and was starting across San Felipe Wash when three Mexican men arose from a shady spot in the wash and disappeared downstream like frightened rabbits. Since there was no other car in the vicinity, they were probably "Wet-backs," awaiting nightfall to proceed to their destination.

The wash appeared considerably wider and deeper, but two decades had brought little changes in the surroundings. After a coating of green moss covering the top of the well was removed, I found the water to be cool and palatable. The number of piles of embers from previous campfires near the well indicated that it was still a popular watering place, used to a great extent, perhaps, by those Southern neighbors who forego the formality of a legal entrance.

Harper's Well is not a trip that is recommended for the inexperienced desert driver. In the four and one-half miles westward from Kane Springs, the little-used road traverses several sandy stretches that could mean trouble for anything other than four-wheel-drive vehicles. In addition, the road is cut in many places by deep washes, around which it is necessary to detour, but which are difficult to see until one is almost at their brink.—END



